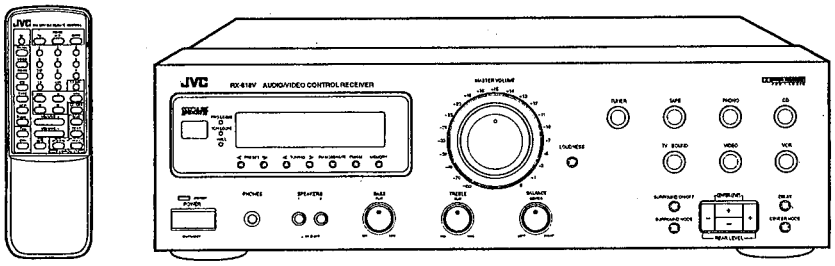
JVC

# SERVICE MANUAL

## AUDIO/VIDEO CONTROL RECEIVER

# RX-618VBK
# RX-660VBK

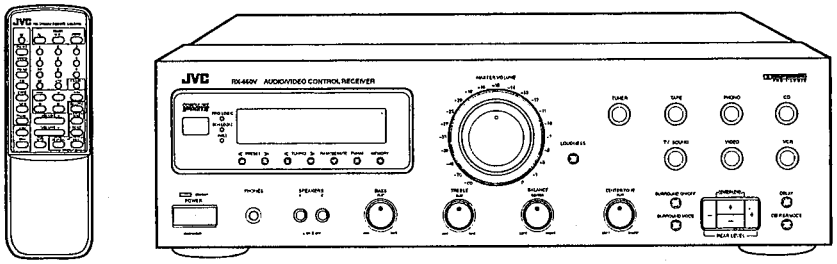
**RX-618VBK**



COMPU LINK
Remote
Control Component

**Area Suffix**
C ..... Canada
J ..... the U.S.A

**RX-660VBK**



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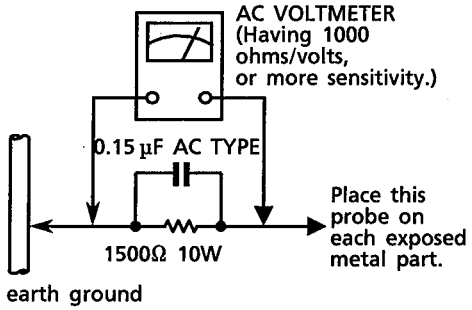
No. 20582
May 1996

## Safety Precautions

1. The design of this product contains special hardware and many circuits and components specially for safety purposes. For continued protection, no changes should be made to the original design unless authorized in writing by the manufacturer. Replacement parts must be identical to those used in the original circuits. Services should be performed by qualified personnel only.
2. Alterations of the design or circuitry of the product should not be made. Any design alterations of the product should not be made. Any design alterations or additions will void the manufacturer's warranty and will further relieve the manufacture of responsibility for personal injury or property damage resulting therefrom.
3. Many electrical and mechanical parts in the products have special safety-related characteristics. These characteristics are often not evident from visual inspection nor can the protection afforded by them necessarily be obtained by using replacement components rated for higher voltage, wattage, etc. Replacement parts which have these special safety characteristics are identified in the Parts List of Service Manual. Electrical components having such features are identified by shading on the schematics and by (⚠) on the Parts List in the Service Manual. The use of a substitute repalcement which does not have the same safety characteristics as the recommended replacement parts shown in the Parts List of Service Manual may create shock, fire, or other hazards.
4. The leads in the products are routed and dressed with ties, clamps, tubings, barriers and the like to be separated from live parts, high temperature parts, moving parts and/or sharp edges for the prevention of electric shock and fire hazard. When service is required, the original lead routing and dress should be observed, and it should be confirmed that they have been returned to normal, after re-assembling.
5. Leakage currnet check (Electrical shock hazard testing)
   After re-assembling the product, always perform an isolation check on the exposed metal parts of the product (antenna terminals, knobs, metal cabinet, screw heads, headphone jack, contorl shafts, etc.) to be sure the product is safe to operate without danger of electrical shock.
   Do not use a line isolation transformer during this check.
   - Plug the AC line cord directly into the AC outlet. Using a "Leakage Current Tester", measure the leakage current from each exposed metal parts of the cabinet, particularly any exposed metal part having a return path to the chassis, to a known good earth ground. Any leakage current must not exceed 0.5mA AC (r.m.s.).
   - Alternate check method
     Plug the AC line cord directly into the AC outlet. Use an AC voltmeter having, 1,000 ohms per volt or more sensitivity in the following manner. Connect a 1,500Ω 10 W resistor paralleled by a 0.15 µF AC-type capacitor between an exposed metal part and a known good earth ground.
     Measure the AC voltage across the resistor with the AC voltmeter.
     Move the resistor connection to each exposed metal part, particularly any exposed metal part having a return path to the chassis, and meausre the AC voltage across the resistor.
     Now, reverse the plug in the AC outlet and repeat each measurement. Any voltage measured must not exceed 0.75 V AC (r.m.s.). This corresponds to 0.5 mA AC (r.m.s.).




## Warning

1. This equipment has been designed and manufactured to meet international safety standards.
2. It is the legal responsibility of the repairer to ensure that these safety standards are maintained.
3. Repairs must be made in accordance with the relevant safety standards.
4. It is essential that safety critical components are replaced by approved parts.
5. If mains voltage selector is provided, check setting for local voltage.

Instruction Book

RX-660VBK
RX-618VBK

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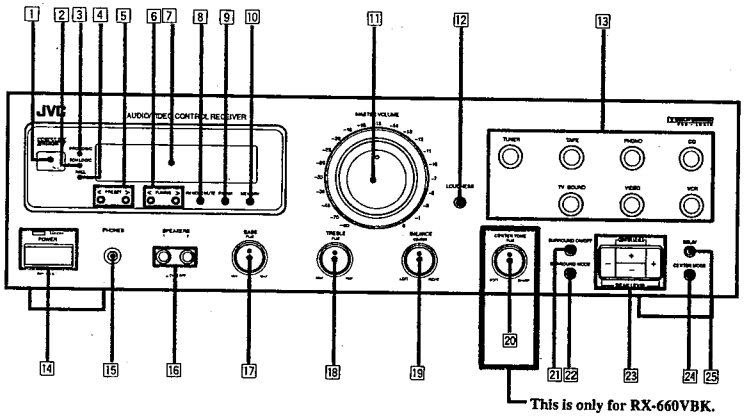
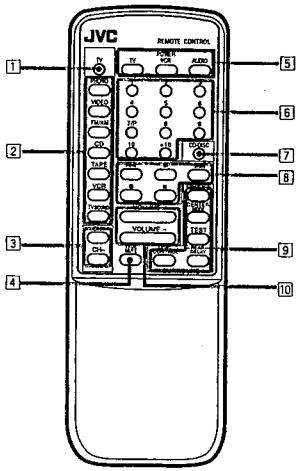
## Introduction

Become familiar with the buttons and controls on the receiver before use.

### Switches, Buttons and Controls




This is only for RX-660VBK.




Refer to the pages in parentheses for details.

**Front Panel**

1. Remote sensor
2. 3CH LOGIC indicator (16, 17)
3. PRO LOGIC indicator (16, 17)
4. HALL indicator (14)
5. PRESET buttons (<, >) (12)
6. TUNING buttons (<, >) (12)
7. Display (9)
8. FM MODE/MUTE button (13)
9. FM/AM button (12)
10. MEMORY button (12)
11. MASTER VOLUME control (10)
12. LOUDNESS button (11)
13. Source selecting buttons (TUNER, TAPE, PHONO, CD, TV SOUND, VIDEO, VCR) (9)
14. POWER button and STANDBY indicator (9)
15. PHONES jack (11)
16. SPEAKERS 1/2 buttons (10)
17. BASS control (10)
18. TREBLE control (10)
19. BALANCE control (10)
20. CENTER TONE control (17) (This control is only for RX-660VBK.)
21. SURROUND ON/OFF button (14, 16, 17)
22. SURROUND MODE button (14, 16, 17)
23. CENTER LEVEL/REAR LEVEL buttons (+/–) (17)
24. CENTER MODE button (16)
25. DELAY button (16)

**Remote Control**

1. TV button (18)
2. Source selecting buttons (PHONO, VIDEO, FM/AM, CD, TAPE, VCR, TV SOUND) (9, 18)
3. CH buttons (+/–) (18)
4. FADE MUTE button (11)
5. POWER buttons (TV, VCR, AUDIO) (9, 18)
6. 10 keys (12, 18)
7. CD-DISC button (18)
8. Operating buttons for JVC audio/video components (18)
9. Surround adjustment buttons (14, 16, 17)
10. VOLUME buttons (+/–) (10)

# Getting Started

This section explains how to connect stereo components and speakers to the receiver, and how to connect the power supply.

## Before Installation

**General**
- Be sure your hands are dry.
- Turn the power off to all components.
- Read the manuals supplied with the components you are going to connect.

**Locations**
- Install the receiver in a location that is level and protected from moisture.
- The temperature around the receiver must be between 23° and 104° F (–5° and 40° C).
- Make sure there is good ventilation around the receiver. Poor ventilation could cause overheating and damage the receiver.

**Handling the receiver**
- Do not insert any metal object into the receiver.
- Do not disassemble the receiver or remove screws, covers, or cabinet.
- Do not expose the receiver to rain or moisture.

## Checking the Supplied Accessories

Check to be sure you have all of the following items, which are supplied with the receiver.
The number in the parentheses indicates quantity of the pieces supplied.

- Remote Control (1)
- Batteries (2)
- AM Loop Antenna (1)
- FM Wire Antenna (1)

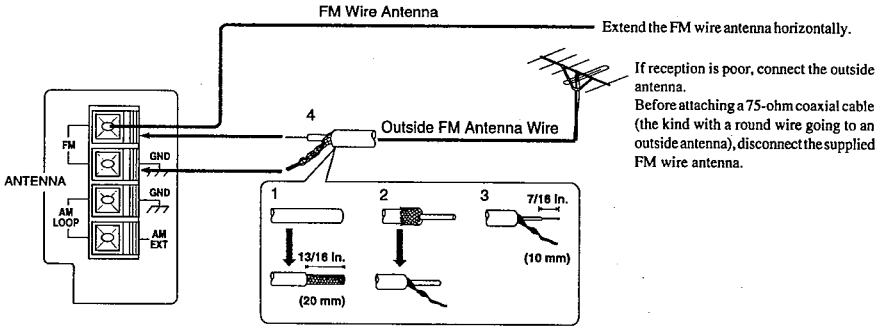
If anything is missing, contact your dealer immediately.





## Connecting the FM and AM Antennas

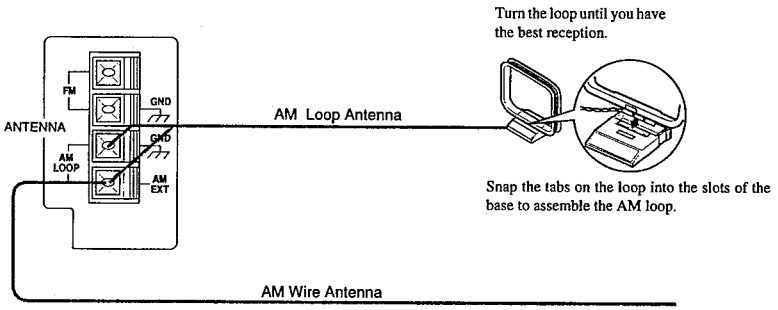
### *FM Antenna Connections*




**How to strip the 75-ohm coaxial cable and connect it to the FM terminals**

1. Strip back the outside covering of the 75-ohm coaxial cable to expose the braided metallic mesh.
2. Pull the mesh back and twist into a single connector as shown in the illustration above.
3. Strip the insulation about 7/16 inches (10 mm) back from the central wire.
4. Insert the twisted mesh and the central wire to the FM terminals, as shown in the illustration above.

### *AM Antenna Connections*

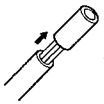

Turn the loop until you have the best reception.
FM
GND
ANTENNA
GND
AM LOOP
AM EXT
AM Loop Antenna
Snap the tabs on the loop into the slots of the base to assemble the AM loop.
AM Wire Antenna
If reception is poor, connect an outdoor single vinyl-covered wire to the AM EXT terminal. (Keep the AM loop antenna connected.)

*Note :*
*Make sure the antenna conductors do not touch any other terminals, connecting cords and power cord. This could cause poor reception.*

## Connecting the Speakers

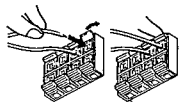
You can connect the following speakers:
- Two sets of front speakers to produce normal stereo sound
- One set of rear speakers to enjoy the surround effect
- One center speaker to produce more effective surround effect (to make human voices outstanding)

**Only for RX-660VBK**
- One subwoofer speaker to enhance the bass. For connecting a subwoofer, see page 6.



For each speaker, connect one end of the speaker signal cable (not supplied) to the speaker terminal on the rear panel and the other end to the speaker.

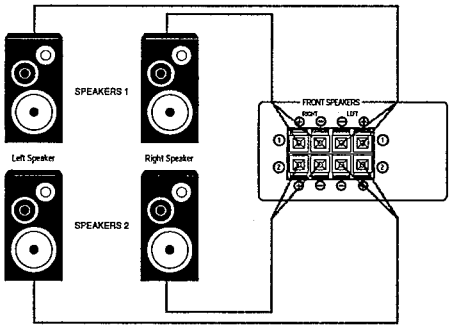
1. **Open each terminal.**
2. **Insert the end of the speaker signal cable as shown (be sure to remove the insulation at the end of each wire first).**
3. **Close the terminals to clamp the speaker signal cables firmly in place.**
4. **Connect the black (–) and red (+) terminals on the rear panel to the black (–) and red (+) terminals marked on the speakers.**



CAUTION:
Use speakers with the same impedance as marked near the terminals on the rear panel.

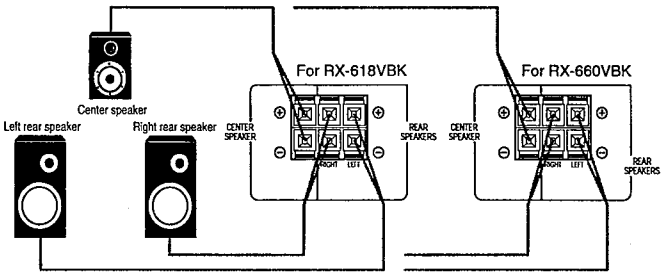
### *Connecting the front speakers*

Connect the front speakers to the FRONT SPEAKERS terminals.




### *Connecting the rear and center speakers*

Connect rear speakers to the REAR SPEAKERS terminals and a center speaker to the CENTER SPEAKER terminals.




*Note:*
*When you connect rear speakers, make sure that both left and right speakers are connected; otherwise, no sound will come out of the rear speakers.*

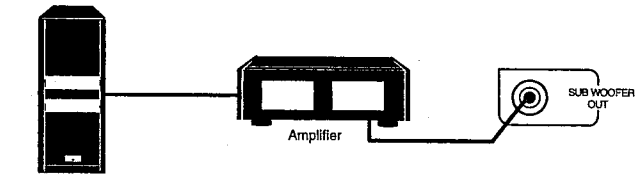


### *Enhancing the bass (only for RX-660VBK)*

You can enhance the bass by connecting a subwoofer using a cable with RCA pin plugs.
To connect a subwoofer, you also need a separate power amplifier.

1 **Connect the input jack of the power amplifier to the SUB WOOFER OUT jack on the rear panel.**

2 **Connect a subwoofer speaker to the speaker terminal of the power amplifier.**



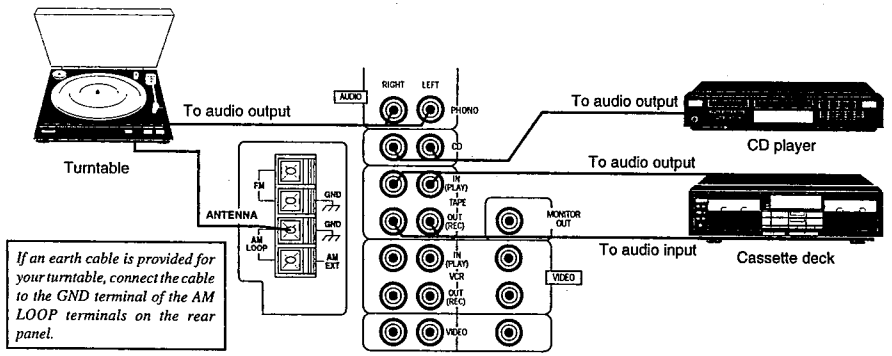

## Connecting Audio/Video Components

You can connect the following components to the receiver using cables with RCA pin plugs.

| Audio Components | Video Components |
|---|---|
| • Turntable | • VCR |
| • CD player | • Video disc player |
| • Cassette deck | • TV |

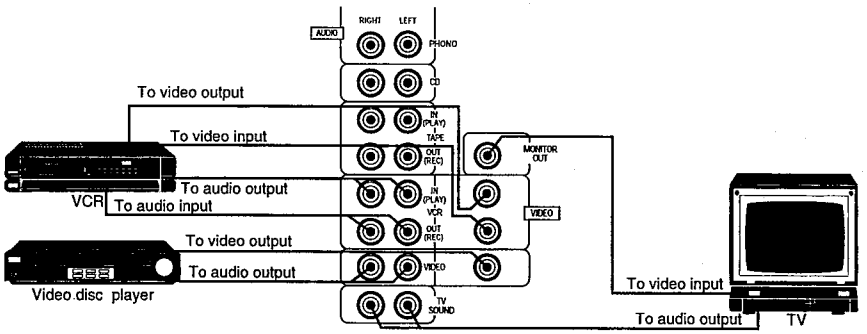
*Notes:*
- *Both plugs and jacks are color-coded; the red ones are for right audio signals, the white ones for left audio signals, and yellow ones for video signals.*
- *Any turntables incorporating a small-output cartridge such as an MC (moving-coil type) must be connected to this receiver through a commercial head amplifier or step-up transformer. Direct connection may result in insufficient volume.*

### *Audio component connections*




*If an earth cable is provided for your turntable, connect the cable to the GND terminal of the AM LOOP terminals on the rear panel.*

*Video component connections*



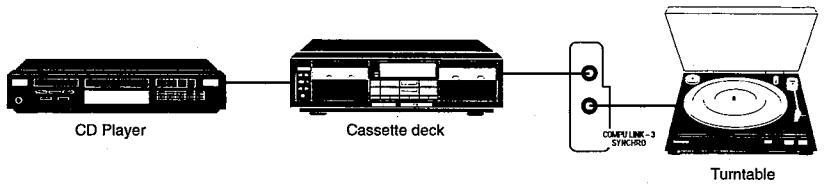

CAUTION:
If you connect a sound-increasing device such as a graphic equalizer between the source components and this receiver, the sound output through this receiver may be distorted.

## Connecting Audio Components for the COMPU LINK-3 Remote Control System

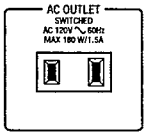
The COMPU LINK-3 remote control system allows you to control other JVC audio components from the receiver or vice versa. To use this system, connect your JVC audio components and the receiver with the cable (monaural mini-plug) supplied with those components.

If your audio component has two COMPU LINK-3 SYNCHRO jacks, you can use either one.
If it has only one COMPU LINK-3 SYNCHRO jack, connect it so that it is the last item in the series of components. (for example, the turntable in the diagram below)

*Notes:*
- *The COMPU LINK-3 remote control system is the upgraded version of the COMPU LINK-1 and COMPU LINK-2. Even if your component has the COMPU LINK-1 or COMPU LINK-2 jacks, you can still connect it in the COMPU LINK-3 remote control system, but some functions may not work correctly.*
- *For more information about the COMPU LINK-3 (-1 and -2) remote control system, see page 19.*




## Power Supply through the Receiver to a Connected Component




You can use the AC outlet on the rear of the receiver to supply power to an audio component.
This AC outlet is a "switched" outlet. So when the receiver is off (that is, in standby mode), power is not supplied through this outlet. By turning the receiver on and off, you can turn the connected component on and off at the same time.

*Note:*
*Do not use the AC outlet on the rear of the receiver to supply power to the component in the COMPU LINK remote control system; otherwise, the COMPU LINK remote control system may not work correctly.*

CAUTION:
Do not plug the component to the AC outlet on the rear if the maximum consumption is greater than indicated by the AC outlet.





## Connecting the Power Cord

Before plugging the receiver into an AC outlet, make sure that all connections have been made.
When the power cord is connected, the STANDBY indicator above the POWER button lights up.

Keep the power cord away from the connecting cables for the TV, VCR, and antenna. The power cord may cause noise or screen interference. We recommend that you use a coaxial cable to connect the antenna, since it is well-shielded against interference.

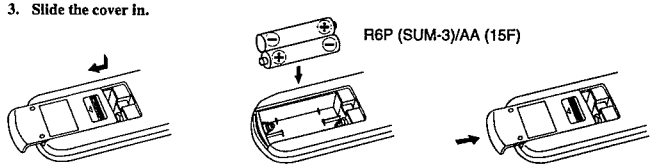
*Notes:*
- *A small amount of power is always consumed even in standby mode. To switch off the power completely, unplug the power cord from the AC outlet.*
- *If the power cord is unplugged or a power failure occurs, preset settings will be erased in a few days.*

CAUTIONS:
- Do not touch the power cord with wet hands.
- Do not pull on the power cord to unplug the receiver. When unplugging the receiver, always grasp the plug itself so as not to damage the cord.

## Putting Batteries in the Remote Control

Before using the remote control, put two supplied batteries first. When using the remote control, aim the remote control directly at the remote sensor on the receiver.

1. **On the back of the remote control, press down on the battery cover and slide it out.**
2. **Insert batteries. Make sure to observe the proper polarity: (+) to (+) and (–) to (–).**
3. **Slide the cover in.**



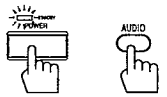

If the range or effectiveness of the remote control decreases, replace the batteries. Use two R6P (SUM-3)/AA (15F) type dry-cell batteries.

CAUTIONS:
Follow these precautions to avoid leaking or cracking cells:
- Place batteries in the remote control so they match the polarity indicated: (+) to (+) and (–) to (–).
- Use the correct type of batteries. Batteries that look similar may differ in voltage.
- Always replace both batteries at the same time.
- Do not expose batteries to heat or flame.

## Basic Operations

The following operations are commonly used when you play any sound source.

### Turning the Power On and Off




On the front panel | From the remote control

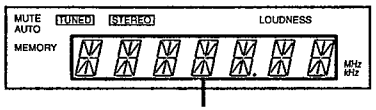
**To turn on the power,** press the POWER button on the front panel or the AUDIO button on the remote control. The STANDBY indicator goes off.

**To turn off the power,** press the POWER button or AUDIO button on the remote control again. The STANDBY indicator lights up.

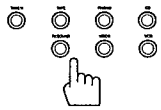
### Selecting the Source to Play

You need to select the source to listen before you start playing any source.

**Press one of the source selecting buttons so that the source name appears on the display.**



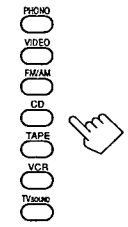

Selected source name appears



On the front panel

**On the front panel:**

| | |
|---|---|
| TUNER | Listen to an FM or AM broadcast. You can also change the source to the tuner by pressing the FM/AM button. |
| TAPE | Listen to the cassette deck connected to the TAPE jacks. |
| PHONO | Listen to a record. |
| CD | Listen to the CD player. |
| TV SOUND | Listen to the TV sound. |
| VIDEO | View the video component connected to the VIDEO jacks. |
| VCR | View the video component connected to the VCR jacks. |




From the remote control

**From the remote control:**

| | |
|---|---|
| PHONO* | Listen to a record. |
| VIDEO | View the video component connected to the VIDEO jacks. |
| FM/AM* | Listen to an FM or AM broadcast. Each time you press the button, the band alternates between FM and AM. |
| CD* | Listen to the CD player. |
| TAPE* | Listen to the cassette deck connected to the TAPE jacks. |
| VCR | View the video component connected to the VCR jacks. |
| TV SOUND** | Listen to the TV sound. |

*Notes:*

* *When you press one of the source selecting buttons on the remote control marked above with an asterisk, the receiver automatically turns on.*

** *If you press the TV SOUND button toward a JVC TV, the TV's input mode also changes to TV.*



### Selecting the Front Speakers

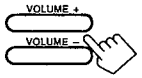
When you have connected two sets of front speakers, you can select which to use. Pressing in the SPEAKERS 1 or SPEAKERS 2 button activates the respective set of speakers.

**To use the set of speakers connected to the FRONT SPEAKERS ① terminals,** press in the SPEAKERS 1 button (▬ON), and press out the SPEAKERS 2 button (▮OFF).
**To use the set of speakers connected to the FRONT SPEAKERS ② terminals,** press in the SPEAKERS 2 button (▬ON), and press out the SPEAKERS 1 button (▮OFF).
**To use both sets of speakers,** press in both the SPEAKERS 1 and 2 buttons (▬ON).
**To use neither set of speakers,** press out both the SPEAKERS 1 and 2 buttons (▮OFF).

*Note:*
*When only one set of the front speakers is connected to either the FRONT SPEAKERS ① or ② terminals, do not press in both SPEAKERS 1 and 2 buttons (▬ON). If you do, no sound comes out of the front speakers.*

### Adjusting the Volume

On the front panel




From the remote control

**On the front panel:**

**To increase the volume,** turn the MASTER VOLUME control clockwise.
**To decrease the volume,** turn it counterclockwise.

**From the remote control:**

**To increase the volume,** press the VOLUME + button.
**To decrease the volume,** press the VOLUME – button.

CAUTION:
Always set the MASTER VOLUME control to the minimum before starting any source. If the MASTER VOLUME control is left turned up, the sudden blast of sound energy can permanently damage your hearing and/or ruin your speakers.

### Adjusting the Front Speaker Output Balance

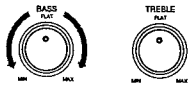
If the sounds you hear from the front right and left speakers are unequal, you can adjust the speaker output balance with the BALANCE control.

**To decrease the left channel sound,** turn the BALANCE control clockwise.
**To decrease the right channel sound,** turn the BALANCE control counterclockwise.
When set to the CENTER position, no adjustment is applied.

### Adjusting the Tone

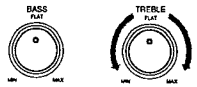
You can increase or decrease the amount of bass and treble reinforcement.

#### *Adjusting the bass*




**To increase the bass reinforcement,** turn the BASS control clockwise.
**To decrease the bass reinforcement,** turn the BASS control counterclockwise.
When set to the FLAT position, no bass reinforcement is applied.

#### *Adjusting the treble*




**To increase the treble reinforcement,** turn the TREBLE control clockwise.
**To decrease the treble reinforcement,** turn the TREBLE control counterclockwise.
When set to the FLAT position, no treble reinforcement is applied.

## Listening at Low Volume (Loudness)

Human ears are not sensitive to bass at low volume. To compensate for this, the loudness function automatically boosts the bass level as you lower the volume.

**To use the loudness function,** press the LOUDNESS button on the front panel.
The LOUDNESS indicator lights up on the display.

**To turn the function off,** press the LOUDNESS button again.
The LOUDNESS indicator goes off.

## Muting the Sound

You can easily turn down the volume by pressing the FADE MUTE button on the remote control.

**To mute the sound through all speakers and headphones connected**
Press the FADE MUTE button so that "MUTING" appears on the display and the VOLUME control turns down.

**To cancel the mute,** press the VOLUME + button (or the VOLUME – button) on the remote control.

## Recording a Source

You can record any source playing through the receiver to the cassette deck connected to the TAPE jacks and the VCR connected to the VCR jacks at the same time.
While recording, you can listen to the selected sound source at whatever sound and tone settings you like, without affecting the sound levels of the recording.

*Note:*
- *The output volume level, tone adjustments, as well as surround effects cannot affect the recording.*

## Listening with Headphones

A standard pair of headphones can be connected to the PHONES jack on the front panel. **Be sure to turn down the volume before connecting or putting on headphones, as high volume can damage both the headphones and your hearing.**

**To listen with only headphones**
Press out both the SPEAKERS 1 and 2 buttons (■OFF).





# Receiving Radio Broadcasts

You can browse through all the stations or use the preset function to go immediately to a particular station.

## Tuning in Stations Manually

1. **Press the TUNER button on the front panel.**
   The last received station of the last received band is tuned in.
2. **Press the FM/AM button to select the band.**
   Each time you press the FM/AM button, the band alternates between FM and AM.
3. **Press the TUNING < or > button on the front panel repeatedly until you find the frequency you want.**
   Pressing the TUNING > button increases the frequency.
   Pressing the TUNING < button decreases the frequency.

*Notes:*
- *You do not have to press the TUNER button to change the source to the tuner in Step 1. Pressing the FM/AM button in Step 2 can also change the source to the tuner.*
- *When you hold down the TUNING < or > button, the frequency keeps changing until you press the TUNING < or > button again or a station is tuned in.*
- *When a station of sufficient signal strength is tuned in, the TUNED indicator lights up on the display.*
- *When an FM stereo program is received, the STEREO indicator also lights up.*

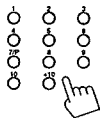
## Using the Preset Tuning

Once a station is assigned to a channel number, the station can be quickly tuned. You can preset up to 40 stations at random.

In some cases, test frequencies have been already memorized for the tuner since the factory examined the preset function before shipment. This is not a malfunction. You can preset the stations you want into memory by following the presetting method.

### *Storing the preset stations*

On the front panel



From the remote control

1. **Tune in the station you want to preset (see above).**
2. **Press the MEMORY button on the front panel.**
   "— — CH" and the MEMORY indicator appear on the display for 5 seconds.
3. **Select a channel number within the 5 seconds.**
   **On the front panel:**
   Press the PRESET < or > button.
   Pressing the PRESET > button increases the channel number.
   Pressing the PRESET < button decreases the channel number.
   **From the remote control:**
   Press the 10 keys.
   Examples: For channel number 5, press 5. For channel number 15, press +10 then 5.
   For channel number 20, press +10 then 10.
   *Note:*
   *When you use the remote control, be sure that the 10 keys are activated for tuner, not for the CD. (See page 18.)*
4. **Press the MEMORY button again while the selected channel number is flashing on the display.**
   The selected channel number stops flashing and the MEMORY indicator goes off, and the station is assigned to the selected channel number.

**To cancel a stored preset station**
Storing a new station on a used number erases the previously stored one.

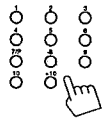
> CAUTION:
> Preset stations may be erased when power is cut off to the receiver, as when it is unplugged from the AC outlet or a power failure occurs. If the preset stations are lost, simply set the stations again using the above procedure.

### *Tuning in a Preset Station*

**On the front panel:**

1. **Press the TUNER button.**
   The last received station of the last received band is tuned in.

2. **Press the PRESET < or > button to select a preset channel number.**
   Pressing the PRESET > button changes preset channels in increasing order.
   Pressing the PRESET < button changes preset channels in decreasing order.



**From the remote control:**

1. **Press the FM/AM button.**
   The last received station of the last selected band is tuned in.
   Each time you press the button, the band alternates between FM and AM.

2. **Press the 10 keys to select a preset channel number.**
   Examples: For channel number 5, press 5. For channel number 15, press +10 then 5.
   For channel number 20, press +10 then 10.

*Note:*
*When you use the remote control, be sure that the 10 keys are activated for tuner, not for the CD. (See page 18.)*

## *Selecting the FM Reception Mode*

You can change the FM reception mode so that reception will be improved.

**When an FM stereo broadcast is hard to receive or noisy**
Press the FM MODE/MUTE button on the front panel. The MUTE AUTO indicator goes off on the display. Reception will be improved although you will lose the stereo effect. In this mode, you will hear noise while tuning into the stations.

**To restore stereo effect**
Press the FM MODE/MUTE button again so that the MUTE AUTO indicator lights up on the display. In this mode, when a program is broadcast in stereo, you will hear stereo sound; when in monaural, you will hear monaural sounds. This mode is also useful to suppress static noise between stations.

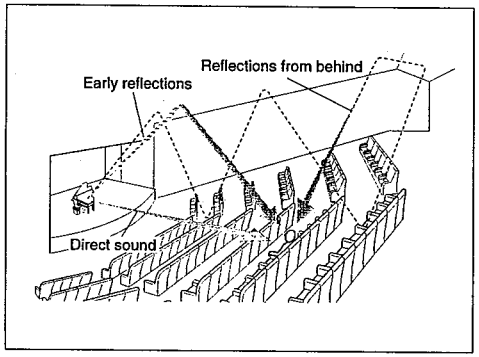


## *Using the Surround Processor*

The built-in surround processor provides three types of surround programs — Dolby Pro Logic, Dolby 3-Channel Logic, and JVC's Hall Surround.

### *What is surround?*

The sound heard in a concert hall or a movie theater consists of direct sound and indirect sound: early reflections and reflections from behind. The reflected sounds are always delayed by the distances of the ceiling and walls from the listener. These reflections are some of the most important elements of the acoustic surround.




**On JVC's Hall Surround**

In order to reproduce a more realistic sound field in your listening room while playing an ordinary stereo source, JVC's Hall Surround has been designed to give you clear vocals and to create the feeling of a concert hall. The sound is reproduced through the front speakers and rear speakers.

**On Dolby Surround**

Dolby Surround has been also developed to reproduce the important elements of the acoustic surround at home.
To watch the soundtracks of video software bearing the mark DOLBY SURROUND * which includes the same encoded surround information as found in Dolby Stereo films, the receiver can provide you with 2 Dolby Surround programs (Dolby Pro Logic and Dolby 3ch Logic).
**Dolby Pro Logic:** Select this mode when the optional rear speakers are connected.
**Dolby 3ch Logic:** Select this mode when a center speaker is connected without rear speakers.

* *Manufactured under license from Dolby Laboratories Licensing Corporation. Additionally licensed under Canadian patent number 1,037,877. "Dolby", "Pro Logic" and the double-D symbol are trademarks of Dolby Laboratories Licensing Corporation.*

*Notes:*
- *The surround processor has no effect on monaural sources.*
- *The surround processor cannot be used for recording.*

## *Using JVC's Hall Surround*

You need to connect one set of rear speakers to obtain the full effect.

1. **Press the SURROUND ON/OFF button (or the ON/OFF button on the remote control).**
   One of the surround program indicators (PRO LOGIC, 3CH LOGIC, or HALL) lights up on the display.

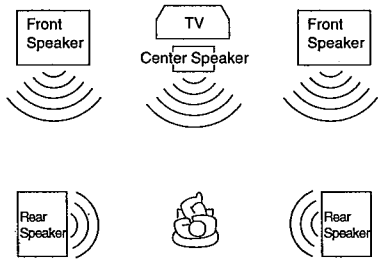
2. **Press the SURROUND MODE button (or the MODE button on the remote control) repeatedly until the HALL indicator lights up on the display.**

**To cancel Hall Surround,** press the SURROUND ON/OFF button (or the ON/OFF button on the remote control) again.

*Note:*
*You can also adjust the delay time (see Step 4 on page 16) and the sound level of the rear speakers (see Step 6 on page 17) for Hall Surround. Once you have adjusted the delay time for the Hall Surround, the receiver memorizes the setting.*

The following illustrations show how to obtain the optimum sound environment for various Dolby Surround settings. Try to find the speaker direction and location to create the optimum sound field.

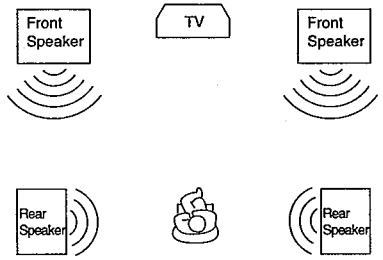
**When you have added a center speaker and rear speakers**




**In this case:**
1. Select PRO LOGIC.
2. Select NORMAL or WIDE for center mode.

See pages 16 and 17 for more details.

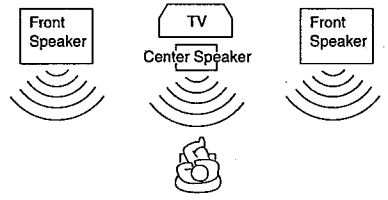
**When you have added rear speakers**




**In this case:**
1. Select PRO LOGIC.
2. Select PHANTOM for center mode.

See pages 16 and 17 for more details.

**When you have added a center speaker (without rear speakers)**




**In this case:**
1. Select 3CH LOGIC.
2. Select NORMAL or WIDE for center mode.

See pages 16 and 17 for more details.







The receiver memorizes two sets of Dolby Surround adjustments; one for Pro Logic and the other for 3ch Logic. However, the sound levels of center and rear speakers cannot be stored separately.

1. **Press the SURROUND ON/OFF button (or the ON/OFF button on the remote control).**
   One of the surround program indicators lights up on the display.

2. **Press the SURROUND MODE button (or the MODE button on the remote control).**
   Each time you press the button, the surround program changes as follows:

PRO LOGIC (DOLBY) → 3CH LOGIC (DOLBY) → HALL → PRO LOGIC (DOLBY)

**PRO LOGIC:** Select this mode when you use the rear speakers
**3CH LOGIC:** Select this mode when you use no rear speakers
**HALL:** This is JVC's original surround program, and is different from Dolby Surround. To use this, see page 14.

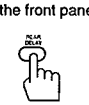
3. **Press the CENTER MODE button on the front panel.**
   Each time you press the CENTER MODE button, the mode changes as follows.

PHANTOM → NORMAL → WIDE → OFF → PHANTOM

**PHANTOM:** Select this mode when you have not connected a center speaker.
**NORMAL:** Select this mode when the size of the center speaker is smaller than that of the front speakers.
**WIDE:** Select this mode when the size of the center speaker is the same as that of the front speakers.
**OFF:** Select this mode to shut off the output of the center channel signal.

*Note:*
*When you have selected 3CH LOGIC in Step 2 above, you cannot select PHANTOM.*

On the front panel




From the remote control

4. **Press the DELAY button to set the delay time of the delayed sound.**
   Each time you press the button, the delay time changes among 3 levels.

DELAY-1 → DELAY-2 → DELAY-3 → DELAY-1

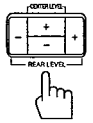
**DELAY-1:** When your distance to your rear speakers is greater than that to the front speakers.
**DELAY-2:** When your distance to your rear speakers is almost equal to that to the front speakers.
**DELAY-3:** When your distance to your rear speakers is less than that to the front speakers.

*Note:*
*When you have selected 3CH LOGIC in Step 2 above, you cannot adjust the delay time.*

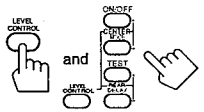
5. **Press the TEST button on the remote control to check your setting.**
   When you press the button, "TEST" starts flashing and a test tone comes out of the speakers in the following order:

Left front speaker → Center speaker → Right front speaker → Rear speakers → Left front speaker

*Notes:*
- *No test tone comes out of the rear speakers when you have selected 3CH LOGIC.*
- *No test tone comes out of the center speaker when you select PHANTOM or OFF for the center mode.*



On the front panel



From the remote control

6. **Set the levels of the center and rear speakers.**
   **On the front panel:**
   Press the CENTER LEVEL +/– button to set the sound level of the center speaker.
   Press the REAR LEVEL +/– button to set the sound level of the rear speakers.
   **From the remote control:**
   Press the CENTER +/– button while pressing the LEVEL CONTROL button to set the sound level of the center speaker.
   Press the REAR +/– button while pressing the LEVEL CONTROL button to set the sound level of the rear speakers.

*Notes:*
- *You can adjust these levels in 1dB steps within the range of ±10 dB. The sound levels of the left and right rear speakers will be the same.*
- *You cannot set the sound level of the rear speakers when you have selected 3CH LOGIC.*
- *You cannot set the sound level of the center speaker when you select PHANTOM or OFF for the center mode.*
- *Although the sound levels of the center and rear speakers can be stored, they are not stored separately for each surround program.*

7. **Press the TEST button on the remote control again to finish the preparation.**
   The test tone stops.

## *Using Dolby Surround*

Once you have set the Dolby Surround adjustments you can use the same adjustments every time you want to enjoy Dolby Surround.

1. **Press the SURROUND ON/OFF button (or the ON/OFF button on the remote control) so that one of the surround program indicator lights up on the display.**

2. **Press the SURROUND MODE button (or the MODE button on the remote control) repeatedly if the surround program indicator (PRO LOGIC or 3CH LOGIC) you want does not light up.**
   Each time you press the button, the display changes to show the following:

   → PRO LOGIC (DOLBY) → 3CH LOGIC (DOLBY) → HALL →

3. **Play a sound source which was processed with Dolby Surround and is labeled with** DOLBY SURROUND **mark.**

**To cancel Dolby Surround,** press the SURROUND ON/OFF button (or the ON/OFF button on the remote control) again.

### *Making dialogues in movies softer or clearer (only for RX-660VBK)*

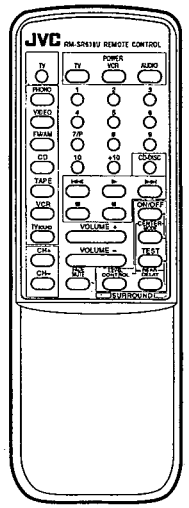
By using the CENTER TONE control you can adjust the level of mid-frequency range, which the human voice is mostly made up of.

**To make dialogue clearer,** turn the control toward SHARP.
**To make them softer,** turn the control toward SOFT.
When set to the FLAT position, no adjustment is applied.

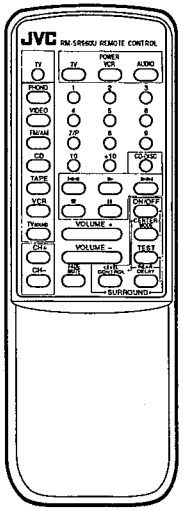
*Note:*
*The CENTER TONE control cannot be used when sounds do not come out of the center speaker.*



## *Using the Remote Control*



For RX-618VBK



For RX-660VBK

You can operate JVC's audio and video components with this receiver's remote control, since control signals for JVC components are preset in the remote control.
To operate these components with the remote control, first select a source with the source selecting buttons on the remote control. Then, operate that source using the remote control.

*Note:*
*If you choose a source on the front panel directly, the remote control will not operate that source. To operate a source with the remote control, the source must be selected using buttons on the remote control.*

After pressing the FM/AM button, you can perform the following operations:

| | |
|---|---|
| FM/AM | Alternates between FM and AM. |
| 1 — 10, +10 | Selects a preset channel number directly<br>To select channel number 5, press 5. For channel number 15, press +10, then 5. For channel number 20, press +10, then 10. |

After pressing the CD button, you can perform the following operations on a CD player:

| | |
|---|---|
| ▶ | Starts playing |
| ⏮ | Returns to the beginning of the current (or previous) track |
| ⏭ | Skips to the beginning of the next track |
| ■ | Stops playing |
| ⏸ | Pauses |
| 1 — 10, +10 | Selects a track number directly<br>To select track number 5, press 5. For track number 15, press +10, then 5. For track number 20, press +10, then 10. |

After pressing the TAPE button, you can perform the following operations on a cassette deck:

| | |
|---|---|
| ▶ | Starts playback |
| ⏮ | Fast winds a tape from right to left |
| ⏭ | Fast winds a tape from left to right |
| ■ | Stops operation |
| ⏸ | Pauses |

After pressing the VCR button, you can perform the following operations on a VCR:

| | |
|---|---|
| ▶ | Starts playback |
| ⏮ | Rewinds a video tape |
| ⏭ | Fast winds a video tape |
| ■ | Stops operation |
| ⏸ | Pauses |
| CH+/– | Changes TV channels on a VCR |

*Note:*
*While you are playing the source other than VCR—such as the CD player or cassette deck, you cannot operate the VCR using the remote control.*

After pressing the TV SOUND or TV button (located at the leftmost portion of the remote control, not the one in the POWER section), you can perform the following operations on TV:

| | |
|---|---|
| CH +/– | Changes TV channels |

*Notes:*
- *When you press the TV SOUND or TV button (located at the upper leftmost portion of the remote control, not the one in the POWER section), the TV's input mode changes to TV.*
- *You can also turn the VCR or TV on and off by pressing the VCR or TV button in the POWER section of the remote control.*

After pressing the CD-DISC button, you can perform the following operations on a CD player-changer:

| | |
|---|---|
| 1 — 6, 7/P | Select the number of a disc installed in a CD player-changer. Then continue to operate the CD player as described above. |

*Note:*
*If you have the CD player-changer XL-MC100C and XL-MC100M, 1 — 6 buttons function as the DISC SKIP button.*
- *Press 2, 4, or 6 to skip to the next disc.*
- *Press 1, 3, or 5 to skip back to the previous disc.*

## COMPU LINK Remote Control System

COMPU LINK Remote Control System

The COMPU LINK remote control system allows you to operate JVC audio components through the remote sensor on the receiver.
To use this remote control system, you need to connect JVC audio components through the COMPU LINK-3 SYNCHRO jacks (see page 7) in addition to the connections using cables with RCA pin plugs (see page 6).
This remote control system allows you to use four functions listed below.

### ■ Remote Control through the Remote Sensor on the Receiver

You can control all audio components through the remote sensor on the receiver using this remote control.
For details, see page 18.

*Note:*
*Aim the remote control directly at the remote sensor on the receiver.*

### ■ Automatic Source Selection

When you press the play (►) button on a connected component or on its own remote control, the receiver automatically turns on and changes the source to the component. On the other hand, if you select a new source on the receiver or the remote control, the selected component begins playing immediately.
In both cases, the previously selected source continues playing without sound for a few seconds.

### ■ Automatic Power On/Off (only possible with the COMPU LINK-3 connection)

Both the CD player and cassette deck turn on and off with the receiver.
When you turn on the receiver, the CD player or cassette deck will turn on automatically, depending which component has been previously selected.
When you turn off the receiver, both the CD player and cassette deck will turn off.

### ■ Synchronized Recording

Synchronized recording means the cassette deck starts recording as soon as a CD or record begins playing.

To use synchronized recording, follow these steps:

1 **Put a tape in the cassette deck, and a disc in the CD player (or a record on the turntable).**
2 **Press the record (●) button and the pause (II) button on the cassette deck at the same time.**
This puts the cassette deck into recording pause.

*Note:*
*If you do not press the record (●) button and pause (II) button at the same time, the synchronized recording feature will not operate.*

3 **Press the play (►) button on the CD player or on the turntable.**
The source changes on the receiver, and as soon as play starts, the cassette deck starts recording.
When the play ends, the cassette deck enters recording pause, and stops 4 seconds later.

*Notes:*
- *During synchronized recording, the selected source cannot be changed.*
- *If your CD player is playing in program mode, a 4-second blank is recorded between tracks so that the music scan feature of your cassette deck can be used on the recorded tape.*
- *If the power of any component is shut off during synchronized recording, the COMPU LINK remote control system may not operate properly. In this case, you must start again from the beginning.*
- *Refer also to the manuals supplied with your CD player and cassette deck.*



## Troubleshooting



Use this chart to help you solve daily operational problems. If there is any problem you cannot solve, contact your JVC service center.

| PROBLEM | POSSIBLE CAUSE | SOLUTION |
|---|---|---|
| The display does not light up | The power cord not plugged in | Plug the power cord into an AC outlet |
| No sound from speakers | Speaker signal cables not connected | Check speaker wiring and reconnect if necessary |
| | The SPEAKERS buttons are not set correctly | Press the SPEAKERS buttons in or out correctly |
| | An incorrect source is selected | Select the correct source |
| Sound from one speaker only | Speaker signal cables are not connected properly | Check speaker wiring and reconnect if necessary |
| | The BALANCE control is set to one extreme | Adjust the BALANCE control properly |
| Continuous hiss or buzzing during FM reception | Incoming signal is too weak | Connect an outside FM antenna or contact your dealer |
| | The station is too far away | Select a new station |
| | An incorrect antenna is used | Check with your dealer to be sure you have a correct antenna |
| | Antennas are not connected properly | Check connections |
| Occasional cracking noise during FM reception | Ignition noise from automobiles | Move the antenna farther from automobile traffic |
| Howling during record playing | Your turntable is too close to speakers | Move speakers away from the turntable |
| Remote control does not work | There is an obstruction in front of the remote sensor on the receiver | Remove the obstruction |
| | Batteries are weak | Replace batteries |

## Specifications

### *Amplifier*

| | | |
|---|---|---|
| Output Power | At Stereo operation | **100 watts per channel, min. RMS, both channels driven into 8 ohms, 40 Hz to 20 kHz with no more than 0.8% total harmonic distortion.** |
| | At Surround operation<br>Front channels | 100 watts per channel, min. RMS, driven into 8 ohms at 1 kHz with no more than 0.8% total harmonic distortion. |
| | Center channel | 100 watts, min. RMS, driven into 8 ohms at 1 kHz, with no more than 0.8% total harmonic distortion . |
| | Rear channels | 100 watts min. RMS, driven into 8 ohms at 1kHz, with no more than 0.8% total harmonic distortion |
| Total Harmonic Distortion (8 ohms, 1 kHz) | | 0.8 %* at 100 watts output<br>(* Measured by JVC Audio Analysis System) |
| Frequency Response (8 ohms) | PHONO<br>CD,TAPE,VCR,VIDEO, TV SOUND | 20 Hz to 20 kHz (±1 dB)<br>20 Hz to 20 kHz (±1 dB) |
| Audio Input Sensitivity/ Impedance (1 kHz) | PHONO<br>CD,TAPE,VCR,VIDEO, TV SOUND | 3.3 mV/47 k ohms<br>220 mV/47 k ohms |
| Audio Output Level | TAPE,VCR | 220 mV |
| Signal-to-Noise Ratio ('66 IHF/'78 IHF) | PHONO<br>CD,TAPE,VCR,VIDEO, TV SOUND | 70 dB/78 dB (at REC OUT)<br>87 dB/80 dB |
| RIAA Phono Equalization | | ±0.5 dB (20 Hz to 20 kHz) |
| LOUDNESS control (Volume Control at –40 dB) | | +5 ±2 dB at 100 Hz |
| Tone Control Range | BASS<br>TREBLE | +8 ±2 dB, –8 ±2 dB (at 100 Hz)<br>+8 ±2 dB, –8 ±2 dB (at 10 kHz) |
| Video Input Sensitivity/ Impedance | VCR, VIDEO | 1 Vp-p/75 ohms |
| Video Output Level | VCR, MONITOR OUT | 1 Vp-p (at 1 Vp-p input) |
| Synchronization | | negative |
| Signal-to-Noise Ratio | | 45 dB |



### *FM tuner (IHF)*

| | | |
|---|---|---|
| Tuning Range | | 87.5 MHz to 108.0 MHz |
| Usable Sensitivity | | 10.8 dBf (0.95 µV/75 ohms) |
| 50 dB Quieting Sensitivity | Monaural<br>Stereo | 16.3 dBf (1.8 µV/75 ohms)<br>38.3 dBf (22.5 µV/75 ohms) |
| Signal-to-Noise Ratio (IHF-A weighted) | Monaural<br>Stereo | 80 dB at 85 dBf<br>73 dB at 85 dBf |
| Total Harmonic Distortion | Monaural<br>Stereo | 0.15 % at 1 kHz<br>0.2 % at 1 kHz |
| Stereo Separation at REC OUT | | 40 dB at 1 kHz |
| Capture Ratio | | 1.5 dB (10 mV) |
| Alternate Channel Selectivity | | 60 dB: (±400 kHz) |
| Frequency Response | | 30 Hz to 15 kHz: (+0.5 dB, –3 dB) |

### *AM tuner*

| | | |
|---|---|---|
| Tuning Range | | 530 kHz to 1,710 kHz |
| Usable Sensitivity | Loop antenna<br>External antenna | 300 µV/m<br>30 µV |
| Signal-to-Noise Ratio | | 50 dB (100 mV/m) |

### *General*

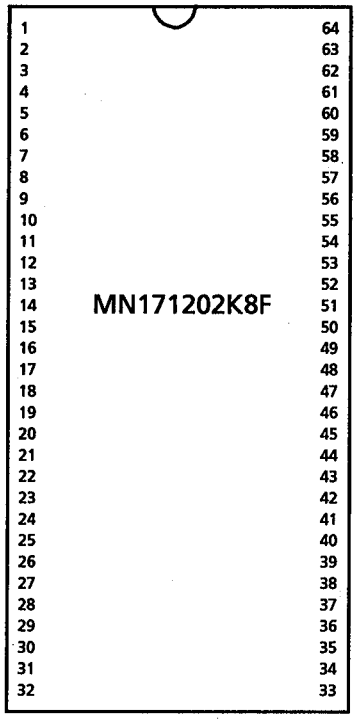
| | | |
|---|---|---|
| Power Requirements | | AC 120V~, 60 Hz |
| Power Consumption | | 300 watts/400 VA<br>5 watts (in standby mode) |
| Dimensions (W x H x D) | | 17 3/16 x 5 13/16 x 13 5/8 inches<br>(435 x 147 x 345.9 mm) |
| Mass | | 17.7 ibs (8.0 kg ) |

Design & specifications are subject to change without notice

# *Description of Major LSIs*

## ■ MN171202K8F (IC401) : SYSTEM CONTROLLER 1

### 1. Terminal Layout




### 2.Key Matrix

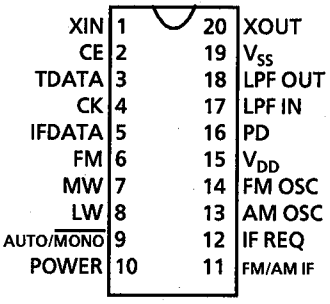
| | KI0 (PIN2) | KI1 (PIN3) | KI2 (PIN4) | KI3 (PIN5) |
|---|---|---|---|---|
| KO0 (PIN6) | PHONO (S401) | CD (S402) | TUNER (S405) | TAPE (S406) |
| KO1 (PIN7) | VIDEO (S403) | VCR (S404) | TV (S407) | LOUDNESS (S408) |
| KO2 (PIN8) | BAND FM/AM (S409) | FM MODE /MUTE (S410) | FREQ. DOWN (S411) | FREQ. UP (S412) |
| KO3 (PIN9) | POWER (S413) | MEMORY (S414) | PRESET /DOWN (S415) | PRESET /UP (S416) |
| KO4 (PIN10) | SURR. (S417) | SURR. MODE (S418) | REAR LEVEL- (S419) | REAR LEVEL+ (S420) |
| KO5 (PIN11) | DELAY (S421) | CENTER MODE (S422) | CENTER LEVEL- (S423) | CENTER LEVEL+ (S424) |

### 3. Description

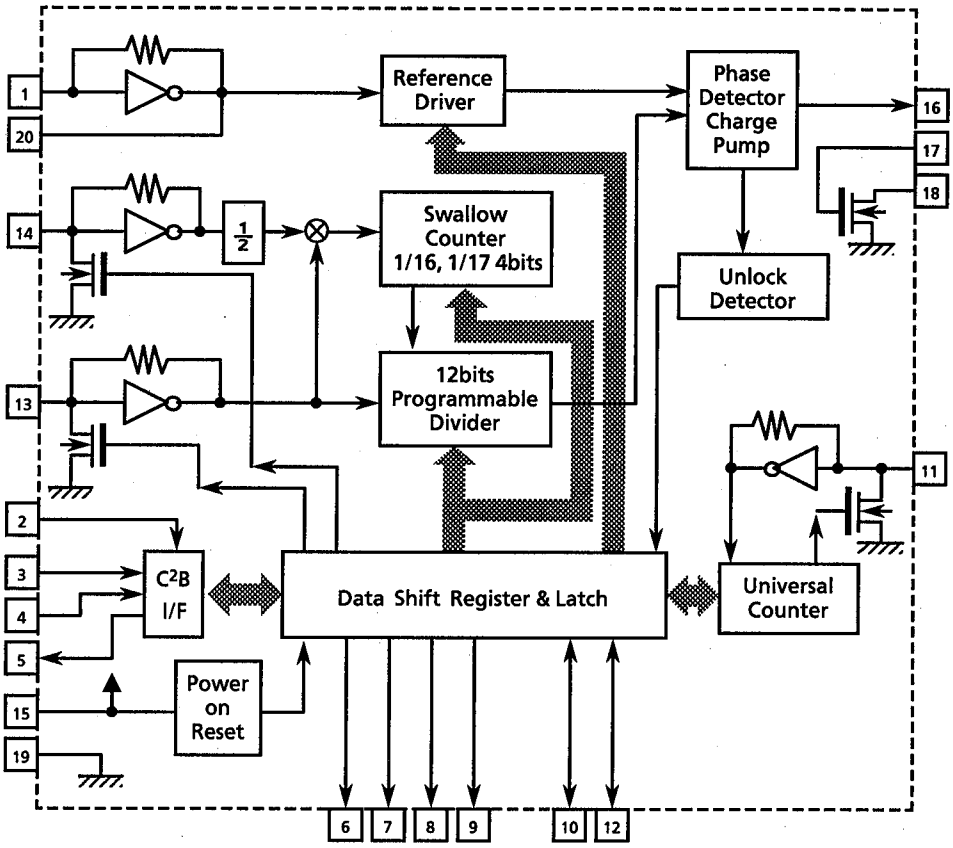
| Pin No. | Symbol | I/O | Description | Pin NO. | Symbol | I/O | Description |
|---|---|---|---|---|---|---|---|
| 1 | VDD | -- | Power supply | 33 | SURR.ON/OFF | O | SURROUND ON/OFF control |
| 2 | KI0 | I | Key matrix Input | 34 | TV | O | TV sound select control signal |
| 3 | KI1 | I | Key matrix Input | 35 | STB2 | O | Strobe signal to IC641,601 |
| 4 | KI2 | I | Key matrix Input | 36 | CLK | O | Clock output |
| 5 | KI3 | I | Key matrix Input | 37 | STB1 | O | Strobe signal to IC321 |
| 6 | D1/KO0 | O | Grid control signal/Key matrix output | 38 | DATA | O | Data output |
| 7 | D2/KO1 | O | Grid control signal/Key matrix output | 39 | CE | O | Chip enable output |
| 8 | D3/KO2 | O | Grid control signal/Key matrix output | 40 | CK | O | CLOCK signal output |
| 9 | D4/KO3 | O | Grid control signal/Key matrix output | 41 | DI | I | Tuner data input |
| 10 | D5/KO4 | O | Grid control signal/Key matrix output | 42 | DO | O | Tuner data output |
| 11 | D6/KO5 | O | Grid control signal/Key matrix output | 43 | RESET | O | RESET signal input |
| 12 | D7/KO6 | O | Grid control signal/Key matrix output | 44 | RM IN | I | Remote signal input |
| 13 | D8/KO7 | O | Grid control signal/Key matrix output | 45 | INH IN | I | Inhibit signal input |
| 14 | S0 | O | Segment control signal | 46 | STEREO | I | STEREO signal input |
| 15 | S1 | O | Segment control signal | 47 | TUNED | I | TUNED signal input |
| 16 | S2 | O | Segment control signal | 48 | COMPULINK IN | I | COMPULINK signal input |
| 17 | S3 | O | Segment control signal | 49 | COMPULINKOUT | O | COMPLUINK signal output |
| 18 | VPP | O | Power supply | 50 | VOL- | O | VOL. control signal |
| 19 | S4 | O | Segment control signal | 51 | VOL+ | O | VOL. control signal |
| 20 | S5 | O | Segment control signal | 52 | VOL LED | O | VOL. indication control |
| 21 | S6 | O | Segment control signal | 53 | SOURCE MUET | O | SOURCE MUET control signal |
| 22 | S7 | O | Segment control signal | 54 | PROLOGIC LED | O | PROLOGIC indication control |
| 23 | S8 | O | Segment control signal | 55 | 3CH LED | O | 3CH indication control |
| 24 | S9 | O | Segment control signal | 56 | HALL LED | O | HALL indication control |
| 25 | S10 | O | Segment control signal | 57 | P/STANDBY LED | O | STANDBY indication control |
| 26 | S11 | O | Segment control signal | 58 | LOUDNESS | O | LOUDNESS control signal |
| 27 | S12 | O | Segment control signal | 59 | T.MUTE | O | TUNER MUET control signal |
| 28 | S13 | O | Segment control signal | 60 | X1 | -- | GND |
| 29 | S14 | O | Segment control signal | 61 | X2 | -- | Not used |
| 30 | S15 | O | Segment control signal | 62 | VSS | -- | GND |
| 31 | VIDEO1 | O | Control signal to IC661 | 63 | OSC2 | -- | Oscillation terminal |
| 32 | VIDEO2 | O | Control signal to IC661 | 64 | OSC1 | -- | Oscillation terminal |

## ■ LC72131M ( IC121 ) : PLL Synthesizer

### 1. Terminal Layout




### 2. Block Diagram




### 3. Pin Functions

| Pin No. | Symbol | I/O | Functions | Pin No. | Symbol | I/O | Functions |
|---|---|---|---|---|---|---|---|
| 1 | X in | I | Crystal oscillator (7.2MHz). | 11 | FM/AM IF | I | Universal counter input |
| 2 | CE | I | Fix the chip enable to "H" when inputting (DI) and outputting (DO) the serial data. | 12 | IF REQ | O | Output the "IF-signal request" to IC102 |
| 3 | TDATA | I | Receive the control data from the controller (IC201). | 13 | AM IN | I | Input the local oscillator signal of AM. |
| 4 | CK | I | This clock is used to synchronize data when transmitting the data of DI and DO. | 14 | FM IN | I | Input the local oscillator signal of FM. |
| 5 | IFDATA | O | Transmit the data from LC72131M to the controller which is synchronized with CK. | 15 | $V_{DD}$ | -- | This is a terminal of power supply. |
| 6 | FM | O | It is "L" on FM mode. | 16 | PD | O | PLL charge pump output : When the local oscillator signal frequency is higher than the reference frequency high level signals will output. When it is lower than the reference frequency, low level signals will output. When it is same as reference frequency signals, it will be floating. |
| 7 | MW | O | It is "L" on MW mode. | 17 | LPF IN | I | Transistor used for the PLL active low-pass filterr |
| 8 | LW | O | It is "L" on LW mode. | 18 | LPF OUT | O | Transistor used for the PLL active low-pass filterr |
| 9 | AUTO/ MONO | O | It is "L" on monaural, "H" on auto. | 19 | $V_{SS}$ | -- | Connected to GND |
| 10 | POWER | O | Regulator control singal P ON "H", STANDBY "L" | 20 | X out | O | Crystal oscillator (7.2MHz). |

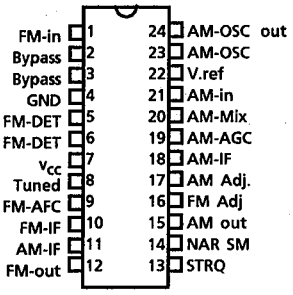
## ■ LA1266A (IC104) : FM AM IF AMP & detector

### 1. The main function descriptions

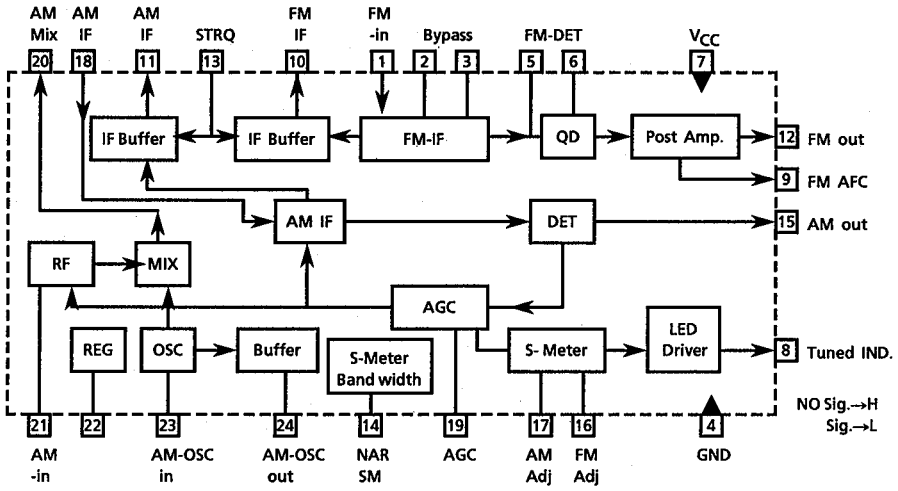
(1) Amplify and detect of FM intermodulation frequencies.

(2) It has local oscillator and mixer for AM, and amplify the AM-IF signal.

### 2. Top View




### 3. Block Diagram




### 4. Pin Function Description

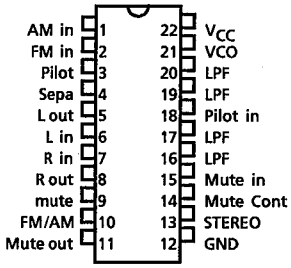
| Pin No. | Symbol | I/O | Functions and Operations |
|---|---|---|---|
| 1 | FM in | I | This is an input terminal of FM IF Signal. |
| 2, 3 | Bypass | -- | Bypass of FM IF Amp. |
| 4 | GND | -- | This is the device ground terminal. |
| 5, 6 | FM DET | -- | FM detect transformer. |
| 7 | $V_{CC}$ | -- | This is the power supply terminal. |
| 8 | Tuned | O | When the set is tuning, this terminal become "L". |
| 9 | FM AFC | O | This is an output terminal of voltage for FM - AFC. |
| 10 | FM IF out | O | When the IF REQ signal of IC251( LC7218 ) applies to pin13, the signal of FM IF outputs. |
| 11 | AM IF out | O | When the IF REQ signal of IC251( LC7218 ) applies to pin13, the signal of AM IF outputs. |
| 12 | FM out | O | FM detection output. |
| 13 | STRQ | I | The IF-signals come out from pin10 (FM-IF) or pin11 (AM-IF) while this terminal goes to "High". |
| 14 | NAR SM | -- | Control the Band-width of AM signal meter. |
| 15 | AM out | O | AM detection output. |
| 16 | FM Adj | -- | For adjust the stop level (or mute level) of FM. |
| 17 | AM Adj | -- | For adjust the stop level (or mute level) of AM. |
| 18 | AM-IF | I | Input of AM IF Signal. |
| 19 | AM-AGC | I | This is an AGC voltage Input terminal for AM. |
| 20 | AM-MIX | O | This is an output terminal for AM mixer. |
| 21 | AM-IN | I | This is an input terminal for AM RF Signal. |
| 22 | V.REF | -- | Control the Band-width of FM signal meter. |
| 23 | AM-OSC | -- | This is a terminal of AM Local oscillation circuit. |
| 24 | AM-OSC out | O | AM Local Oscillation Signal output. |

## ■ LA3401 (IC105) : FM MPX Detector

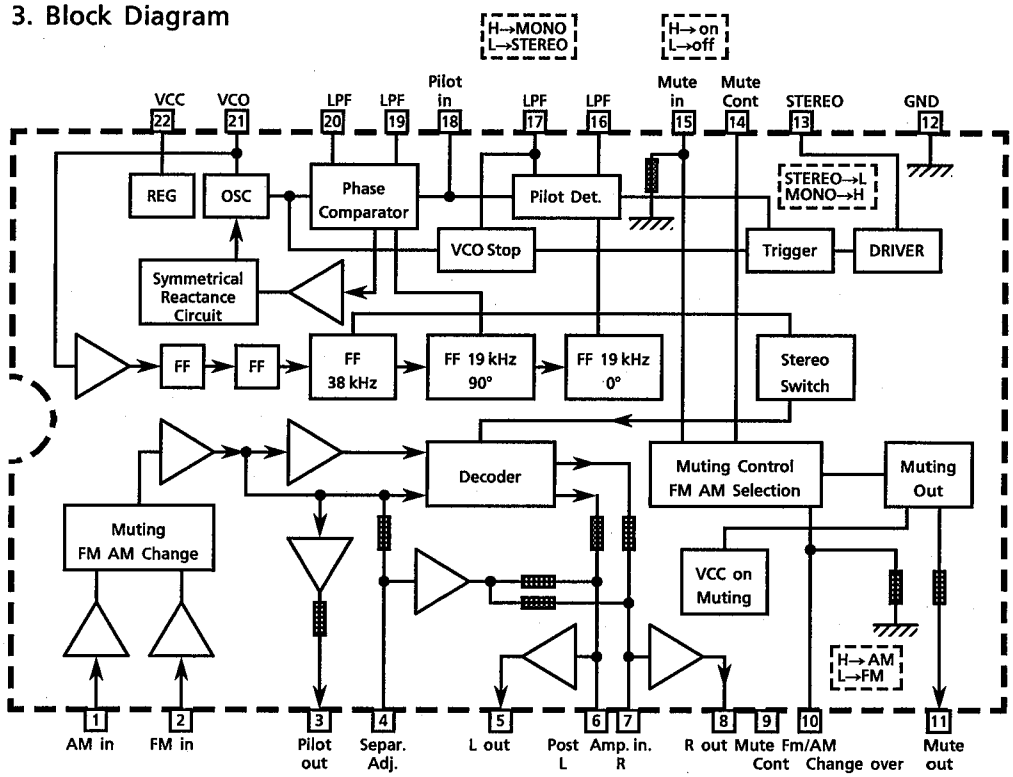
### 1. The main function descriptions

(1) Detect the FM Multiplex Signal ( Stereo signal ).
(2) When receiving FM Stereo Signal, it outputs the signal for indicator.
(3) AM / FM Audio Amplifier.

### 2. Terminal Layout




### 3. Block Diagram

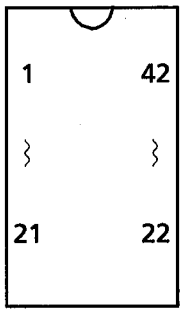



### 4. Pin Function Description

| Pin No. | Symbol | I/O | Functions and Operations |
|---|---|---|---|
| 1 | AM in | I | This is an input terminal for AM detection signal. |
| 2 | FM in | I | This is an input terminal for FM detection signal. |
| 3 | Pilot out | O | Output of MPX pilot signal (Connect to Pin18). |
| 4 | Sepa. Adj. | -- | Separation adjustment. |
| 5 | L. out | O | Left channel signal output. |
| 6 | L | O | Reversal output of Pin5. |
| 7 | R | O | Reversal output of Pin8. |
| 8 | R out | O | Right channel signal output |
| 9 | Mute Cont | -- | The mute time is controlled by the connected capacitor when turning the power switch on. |
| 10 | FM / AM | I | Change over the FM / AM input. "H" : AM, "L" : FM |
| 11 | Mute out | -- | Not use |
| 12 | GND | -- | Ground terminal. |
| 13 | Stereo | O | Stereo indicator output. Stereo : "L", Mono : "H" |
| 14 | Mute Cont | -- | The mute time is controlled by the connected capacitor when changing over the FM / AM . |
| 15 | Mute in | I | MutE signal input."H" : Mute on, "L" : Mute off. |
| 16 | LPF | -- | Low pass filter of pilot detector. |
| 17 | LPF | -- | While this terminal goes to "H", the VCO stop. |
| 18 | Pilot in | I | Pilot input. |
| 19 | LPF | -- | Low-pass filter of PLL. |
| 20 | LPF | -- | Low-pass filter of PLL. |
| 21 | VCO | I | Voltage controlled oscillator terminal. |
| 22 | $V_{CC}$ | -- | Power supply. |

## ■ LA2785 (IC601) : Dolby Pro Logic Surround Signal Processor

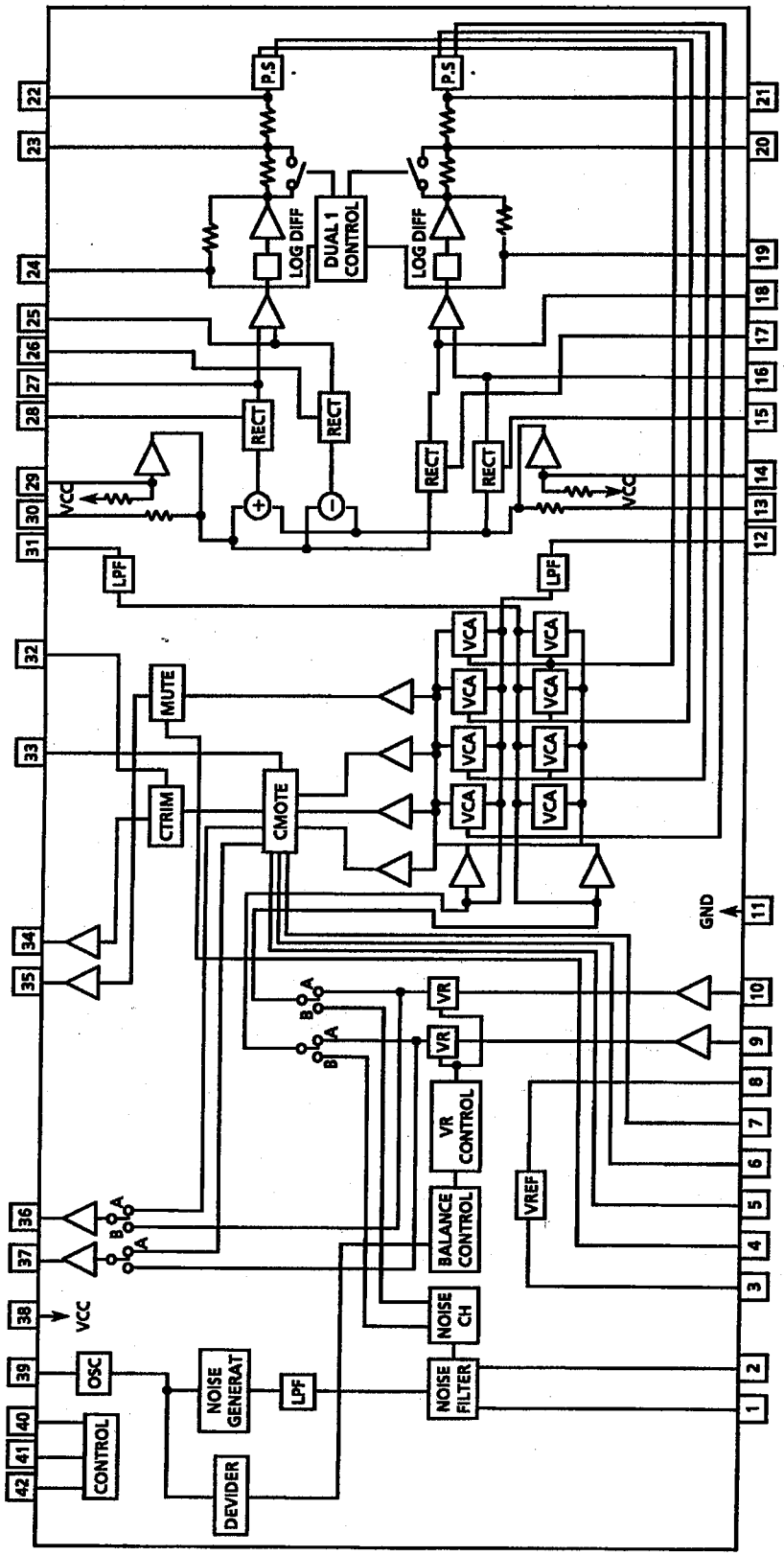
### 1. Terminal Layout




### 2. Pin Functions

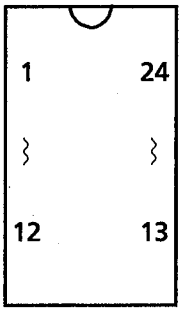
| Pin No | Symbol | I/O | Functions | Pin No | Symbol | I/O | Functions |
|---|---|---|---|---|---|---|---|
| 1 | NS-BPF1 | -- | Capacitor for spectrum filter in noise sequencer | 22 | VCS-1 | -- | Capacitor for time constant (in log differential area) |
| 2 | NS-BPF2 | -- | Capacitor for spectrum filter in noise sequencer | 23 | VCS-2 | -- | Capacitor for time constant (in log differential area) |
| 3 | VREF | -- | Analog reference voltage | 24 | VCS-TH | -- | Capacitor for time constant (in log differential area) |
| 4 | S-DC-OUT | -- | Capacitor for DC-cut Sch | 25 | L+R RECT | -- | Capacitor for Center channel detection |
| 5 | C-DC-OUT | -- | Capacitor for DC-cut Cch | 26 | DC-CUT | -- | Capacitor for DC-cut at detection circuit |
| 6 | L-DC-OUT | -- | Capacitor for DC-cut Lch | 27 | L−R RECT | -- | Capacitor for Surround channel detection |
| 7 | R-DC-OUT | -- | Capacitor for DC-cut Rch | 28 | DC-CUT | -- | Capacitor for DC-cut at detection circuit |
| 8 | VREF-BUFFER | -- | VREF low impedance | 29 | R-BPF3 | -- | LPF,HPF for Right channel control circuit |
| 9 | L-IN | I | Left channel signal input | 30 | R-BPF2 | -- | LPF,HPF for Right channel control circuit |
| 10 | R-IN | I | Right channel signal input | 31 | R-BPF1 | -- | LPF,HPF for Right channel control circuit |
| 11 | GND | -- | Ground | 32 | C-TRIM DC-CUT | -- | Capacitor for DC-cut Center channel |
| 12 | L-BPF1 | -- | LPF,HPF for Lch control circuit | 33 | C-MODE-CAP | -- | Capacitor for Center channel output low-pass filter |
| 13 | L-BPF2 | -- | LPF,HPF Left channel control circuit | 34 | C-OUT | O | Center signal output |
| 14 | L-BPF3 | -- | LPF,HPF Left channel control circuit | 35 | S-OUT | O | Surround signal output |
| 15 | DC-CUT | -- | Capacitor for DC-cut at detection circuit | 36 | R-OUT | O | Right channel signal output |
| 16 | R RECT | -- | Capacitor for Right channel detection | 37 | L-OUT | O | Left channel signal output |
| 17 | DC-CUT | -- | Capacitor for DC-cut at detection circuit | 38 | VCC | -- | power supply |
| 18 | L RECT | -- | Capacitor for Left channel detection | 39 | OSC | -- | Oscillation for noise sequencer and auto balance |
| 19 | VLR-TH | -- | Capacitor for time constant (in log differential area) | 40 | STB | I | Strobe signal input |
| 20 | VLR-2 | -- | Capacitor for time constant (in log differential area) | 41 | DATA | I | Serial interface data input |
| 21 | VLR-1 | -- | Capacitor for time constant (in log differential area) | 42 | CLK | I | Serial interface clock |

3. Block Diagram

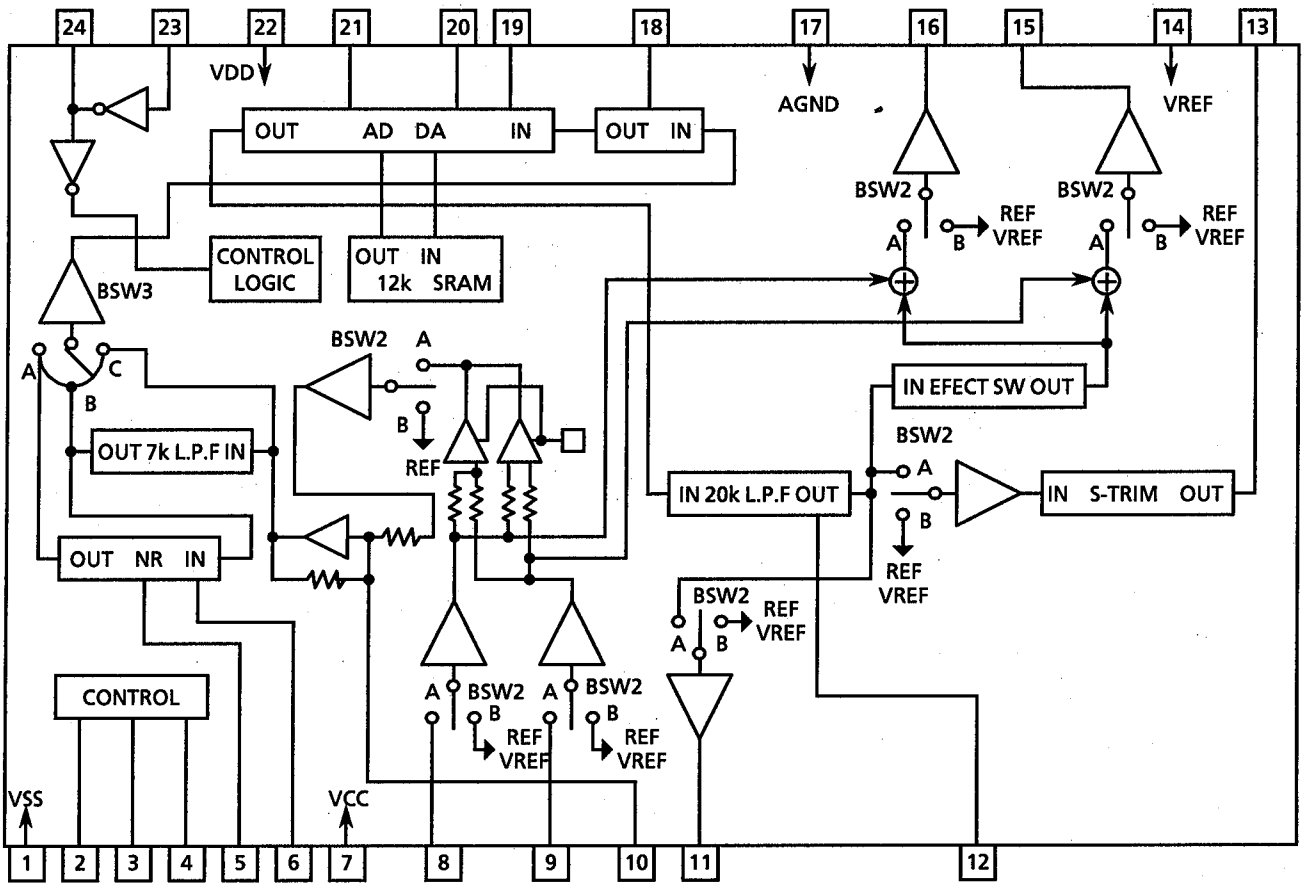


## ■ LV1011 (IC641) : Dolby Surround Passive Decoder

### 1. Terminal Layout



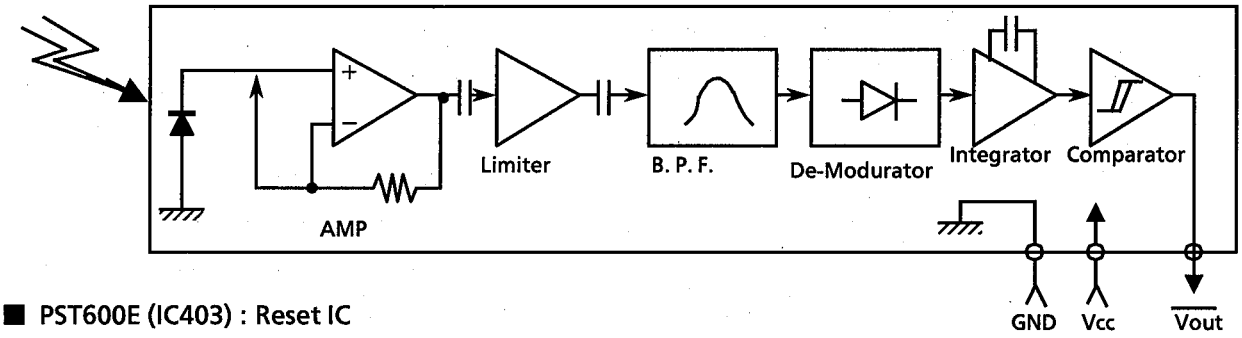

### 2. Block Diagram



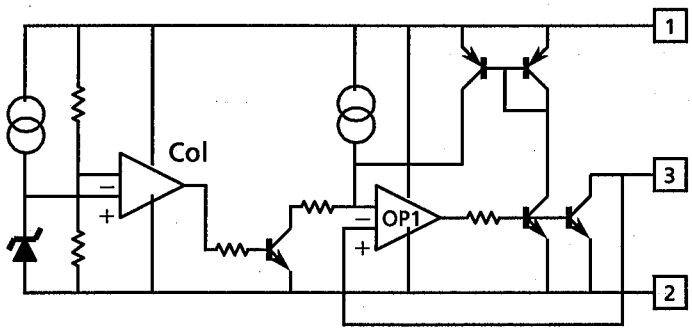
## 3. Pin Functions

| Pin No. | Symbol | I/O | Functions |
|---|---|---|---|
| 1 | DGND | -- | Digital GND |
| 2 | CLK | I | Serial interface clock |
| 3 | DATA | I | Serial interface data input |
| 4 | STB | I | Strobe signal input |
| 5 | NR-DET | -- | Capacitor for noise reduction detection |
| 6 | NR-IREF | -- | Resistor for noise reduction reference current |
| 7 | VCC | -- | Supply |
| 8 | L-IN | I | Left channel signal input |
| 9 | R-IN | I | Right channel signal input |
| 10 | S-IN | I | Surround signal input |
| 11 | DELAY-OUT | -- | Not used |
| 12 | DC-CUT | -- | Capacitor for DC-cut |
| 13 | S-OUT | O | Surround signal output |
| 14 | VREF | -- | Analog reference voltage |
| 15 | R-MIX-OUT | -- | Not used |
| 16 | L-MIX-OUT | -- | Not used |
| 17 | ADND | -- | Analog ground |
| 18 | DC-CUT | -- | Capacitor for DC-cut |
| 19 | D/A | -- | Capacitor for integrator |
| 20 | NOISE SHAPER | -- | Capacitor for noise shaper |
| 21 | A/D | -- | Capacitor for integrator |
| 22 | VDD | -- | Supply for the digital section |
| 23 | OSC | -- | Oscillation terminal |
| 24 | OSC | -- | Oscillation terminal |

■SPS-420-1 (IC402) : Remocon Module IC

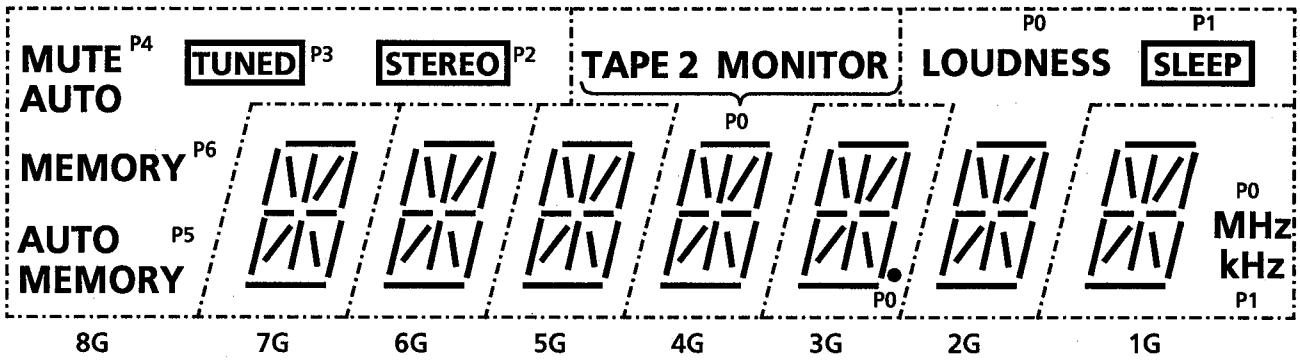


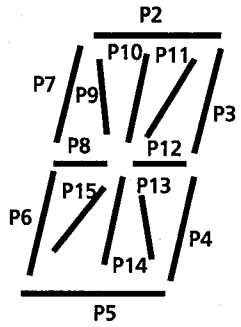

■ PST600E (IC403) : Reset IC



# Internal Connections of the FL Display

■ELU0001-144 : DI401




Pin Connection

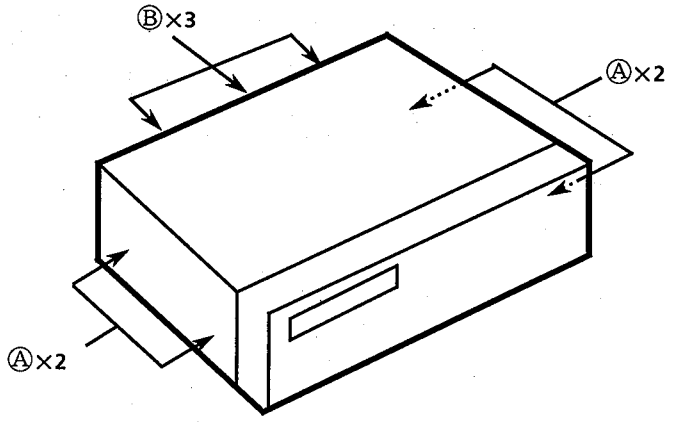
| PIN NUMBER | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| ELECTRODE | F1 | F1 | F1 | NP | NP | NP | NP | NP | P15 | P14 | P13 | P12 | P11 | P10 | P9 | P8 | P7 | P6 | | |
| PIN NUMBER | | | 19 | 20 | 21 | 22 | 23 | 24 | 25 | 26 | 27 | 28 | 29 | 30 | 31 | 32 | 33 | 34 | 35 | 36 |
| ELECTRODE | | | P5 | P4 | P3 | P2 | P1 | P0 | 8G | 7G | 6G | 5G | 4G | 3G | 2G | 1G | NP | F2 | F2 | F2 |

Note F : Filament, G : Grid, P : Element, NP : No Pin, NC : No Connection

# Disassembly Procedures

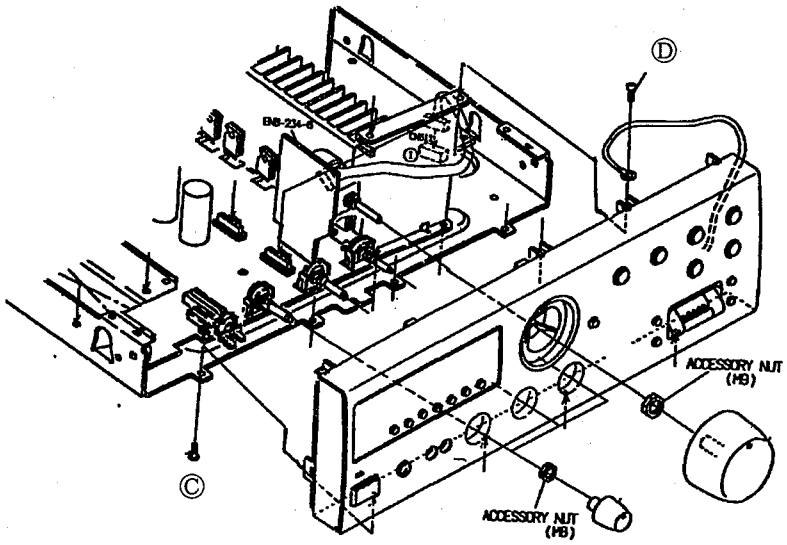
(1) Removing the top cover

1. Remove 4 screws Ⓐ fastening both sides of top cover, and 3 screws Ⓑ fastening the rear side.
2. Remove the top cover.




(2) Removing the Front panel Ass'y

1. Remove the top cover.
2. Remove the Master volume knob,bass knob ,treble knob and balance knob.
3. Remove the nut fastening the Master volume knob,bass knob ,treble knob and balance knob. (RX-660VBK:Remove the center tone knob and nut)
4. Remove the 4 screws Ⓒ fastening bottom side of front panel ass'y.
5. Remove the 2 screws Ⓓ fastening top side of front panel ass'y.
6. Remove it.

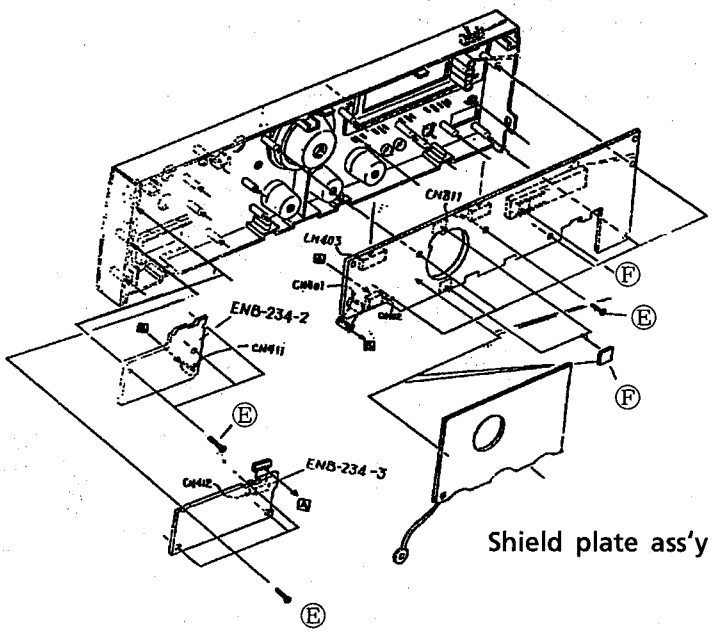



Ⓐ .. E406308-001 Ⓑ ... E73273-006 Ⓒ ... SDSF3008M Ⓓ ... SBSG308CC

(3) Removing the Front P.C. Board

1. Removing the top cover.
2. Removing the front panel assembly.
3. Removing the shield plate ass'y.
4. Removing the 13 screws Ⓔ,. (RX-660VBK:Removing the 2 screws fixing the center tone pcb)
5. Remove it.

* Assembling the 3 spacer Ⓕ(E306805-122) fixing the shield plate ass'y.

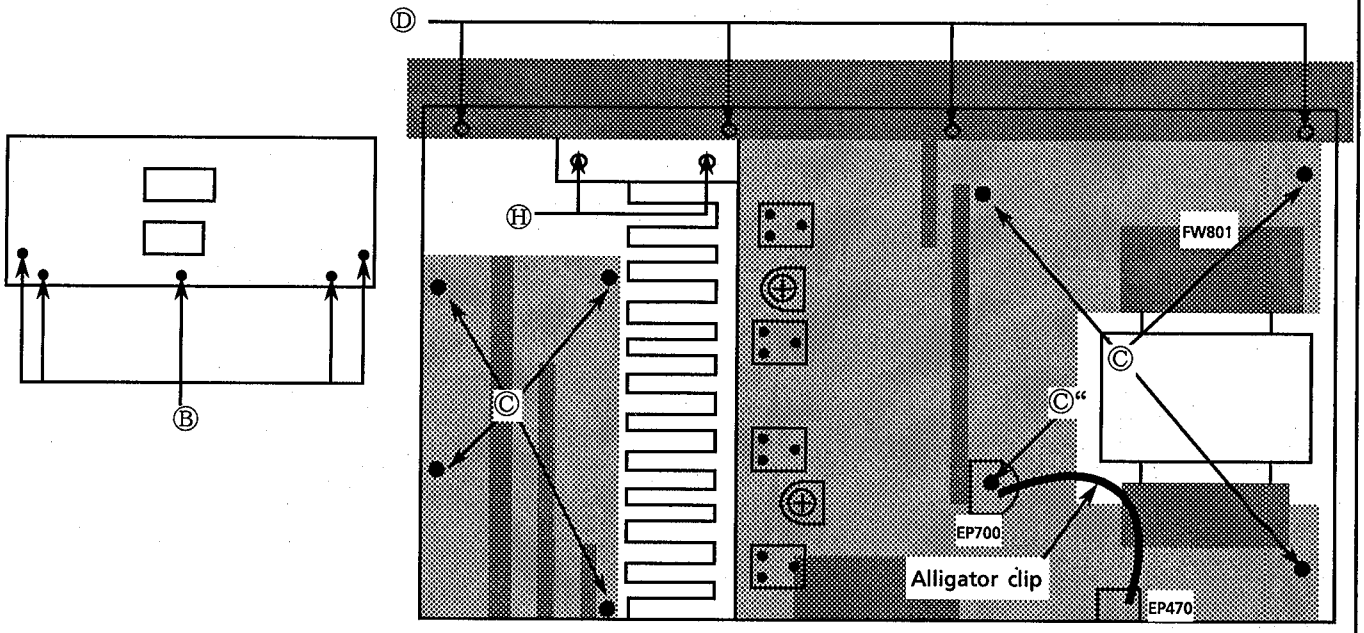



Shield plate ass'y

(4) Removing the bottom cover with power trans

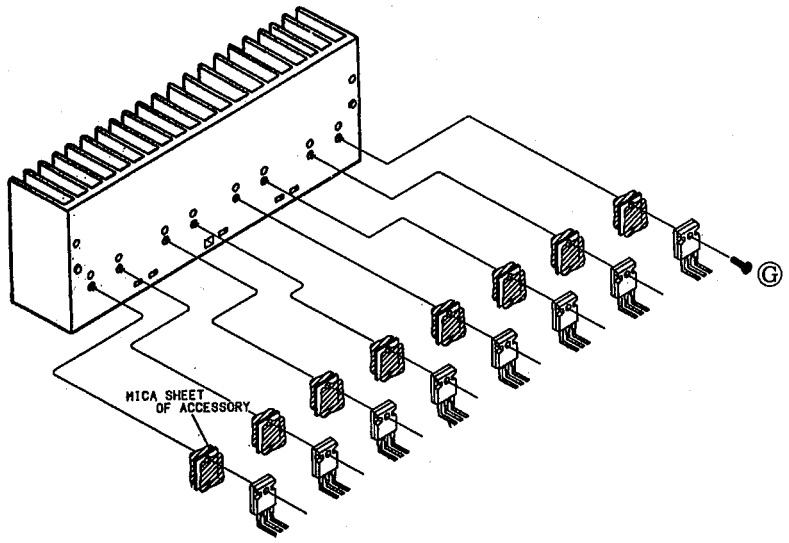
1. Removing the top cover.
2. Removing the 4 screws Ⓓ and the 2 screws Ⓗ fastening bottom side.
3. Removing the 5 screws Ⓑ fastening rear panel.
4. Removing the 8 screws Ⓒ and Ⓒ" fastening same P.C. boreds ass'y.
5. Cut the tie band of the FW801.
6. Remove it.

※ The screw Ⓒ" which secures the bottom cover is also used for ground. It is necessary to ground before checking after the bottom cover is removed.




Ⓑ E73273-006 ⒸⒸ"SBSG3008CC Ⓓ SDSF3008M ⒺⒺ"SDSF2608Z Ⓗ SDSG3008M

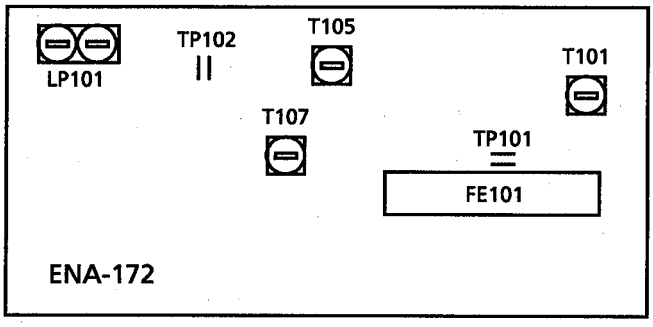
(5) Removing the Power Transistor
1. Remove the (1) and (4).
2. Unsolder the broken transistor.
3. Remove the some screws Ⓖ fastening it.
4. Remove it.




Ⓖ .. E73525-003

# ADJUSTMENT PROCEDURES

## ■ Tuner section




(1) Tuning Voltage
Confirm the voltages in the table at TP101.

Tuning range

| Area | Range | |
|---|---|---|
| | MW (kHz) | FM (MHz) |
| the U.S.A., Canada | 530~1710 | 87.5MHz~ 108MHz |

FM Tuning voltage (Unit : V)

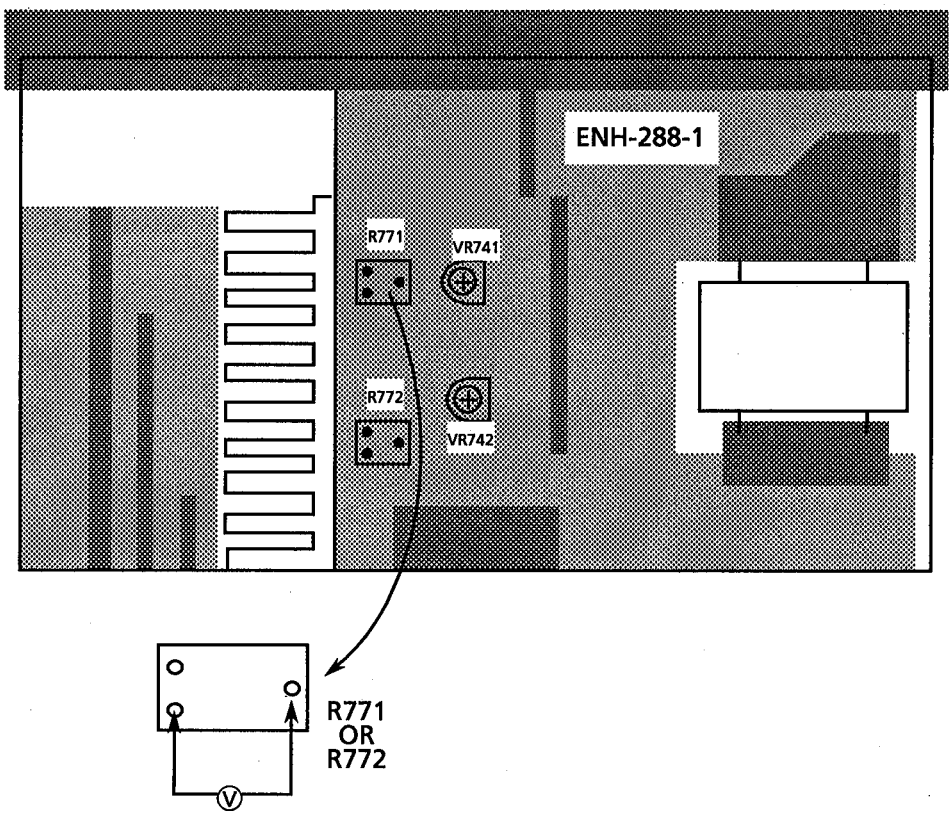
| Area | Frequency | |
|---|---|---|
| | 87.5MHz | 108MHz |
| the U.S.A., Canada, | 1.6±1.0 | 8.0±2.0 |

AM Tuning voltage (Unit : V)

| Area | Frequency (MW) | | | | | | |
|---|---|---|---|---|---|---|---|
| | 522KHz | 530KHz | 531KHz | 1600KHz | 1602KHz | 1629KHz | 1710KHz |
| the U.S.A., Canada | — | 1.0 > 0.5 | — | — | — | — | 8.0±0.8 |

(2) FM Center meter
Receive a broadcast by using the function of 'AUTO STOP'.
Adjust T105 (Detector coil) so taht the voltage at TP102 becomes 0±1.5mV.

## ■ Power Amplifier section



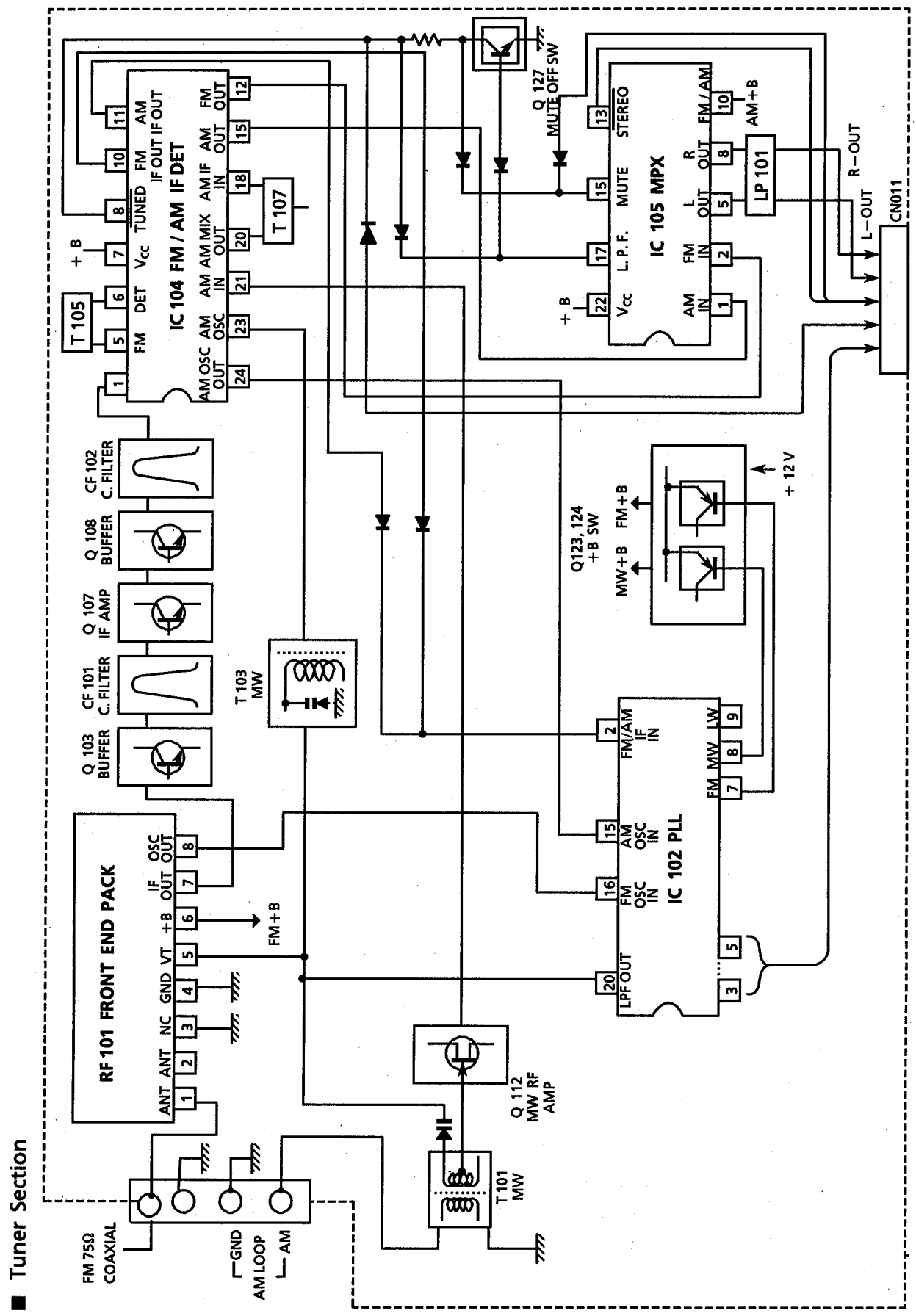

### ■ Idling current

(1) Set the volume control to minimum during this adjustment.And set surrund mode "OFF".
(2) Turn VR741 and VR742 fully counterclockwies to warm up befor adjustment.
If the heatsink is already warm from previous use the correct adjustment can not be made.
(3) Connect a DC voltmeter to R771 resistor's leads for left channel, or to R772 for right channel.
(4) Adjust R771 for left channel, or R772 for right channel, so that the DC voltmeter becomes 1mV~10mV.

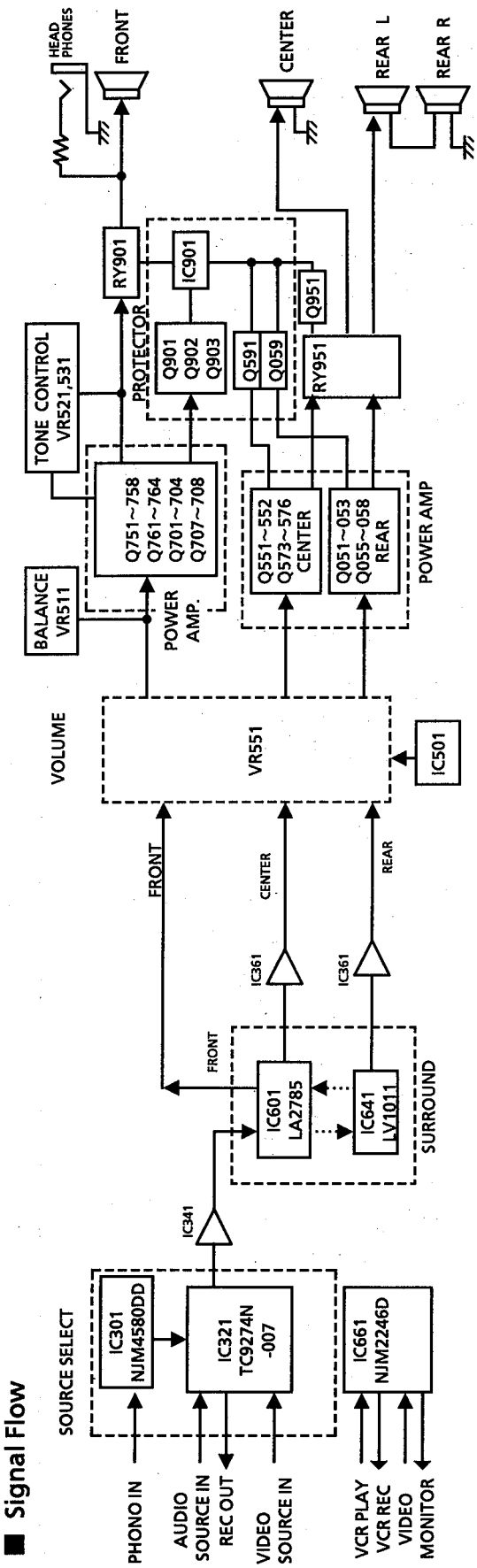
- MEMO -

# Block Diagrams

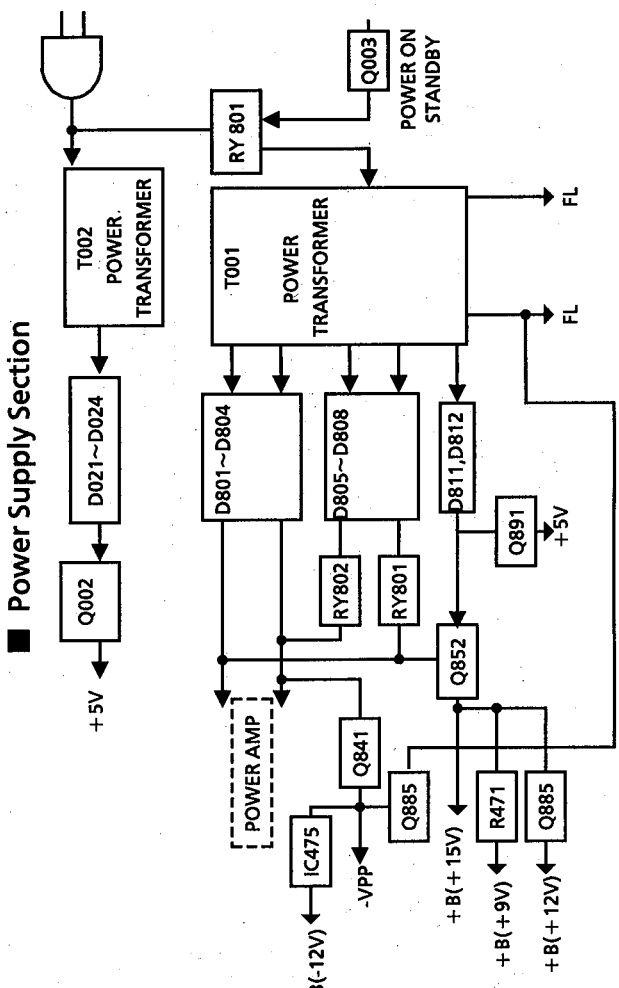
■ Tuner Section



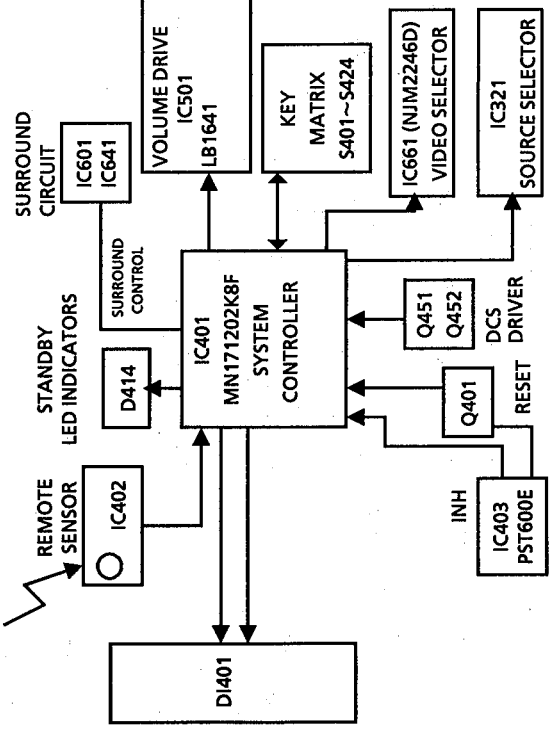
## ■ Signal Flow



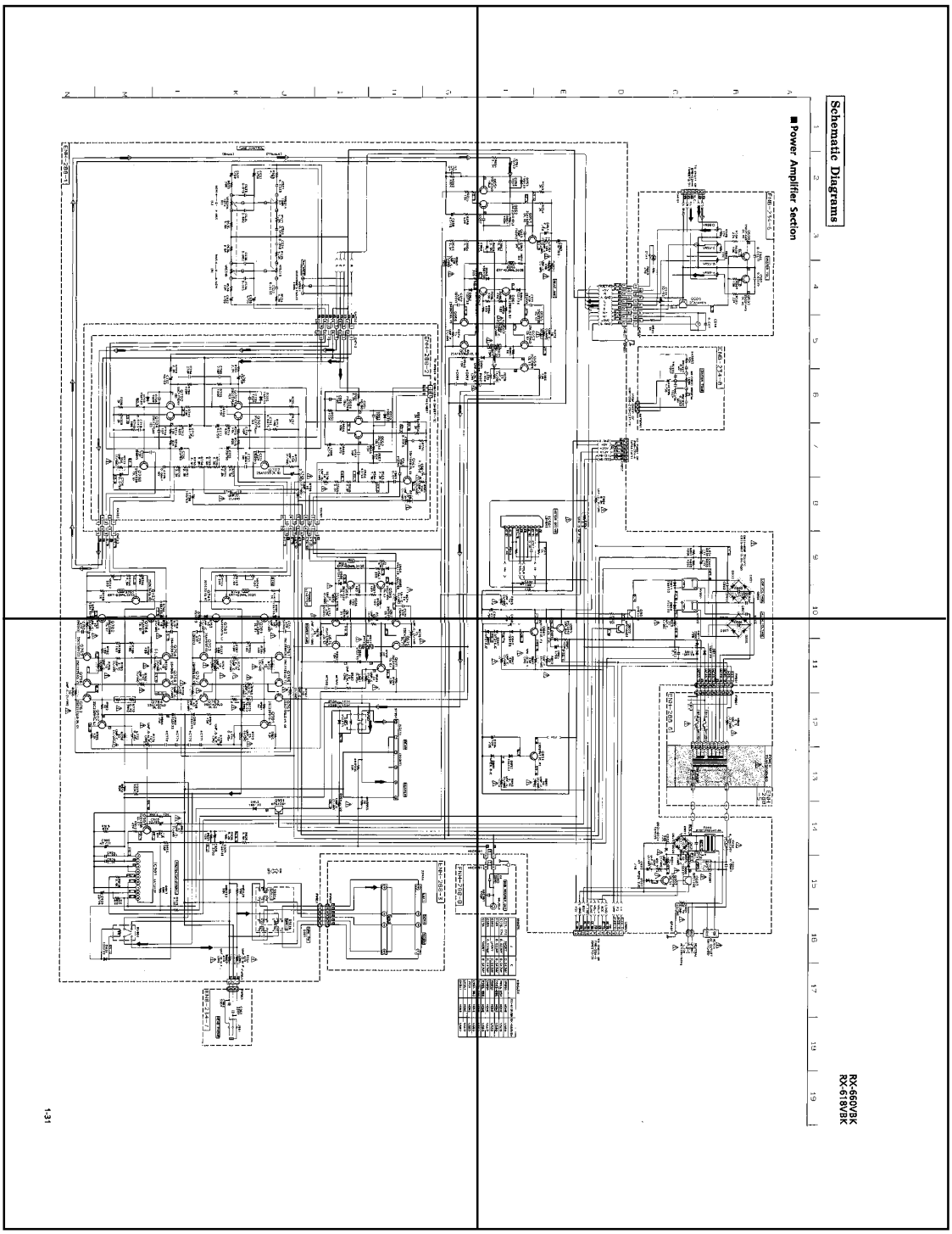

## ■ Power Supply Section



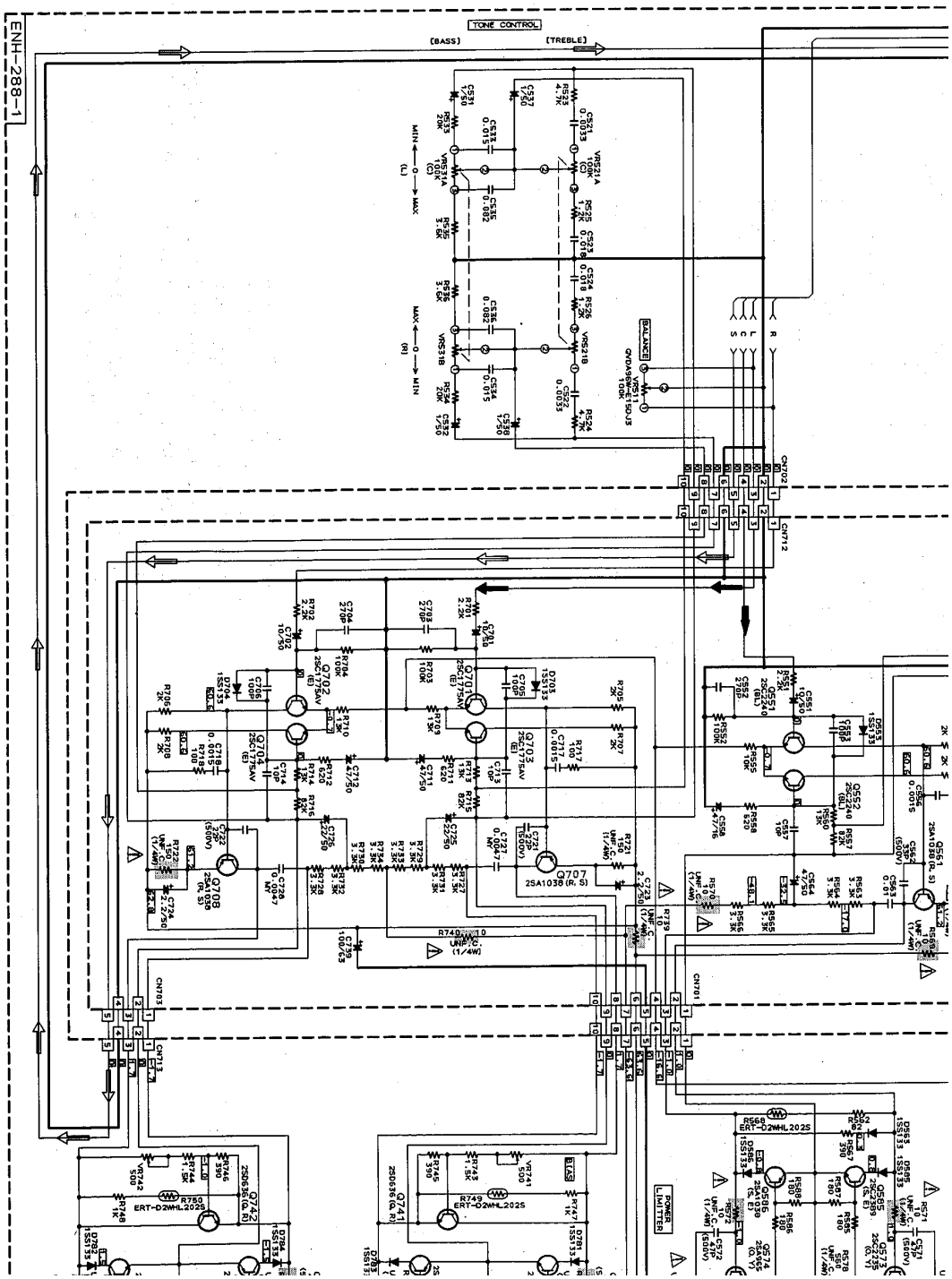

## ■ Control Section



P1-31-a P1-31-b

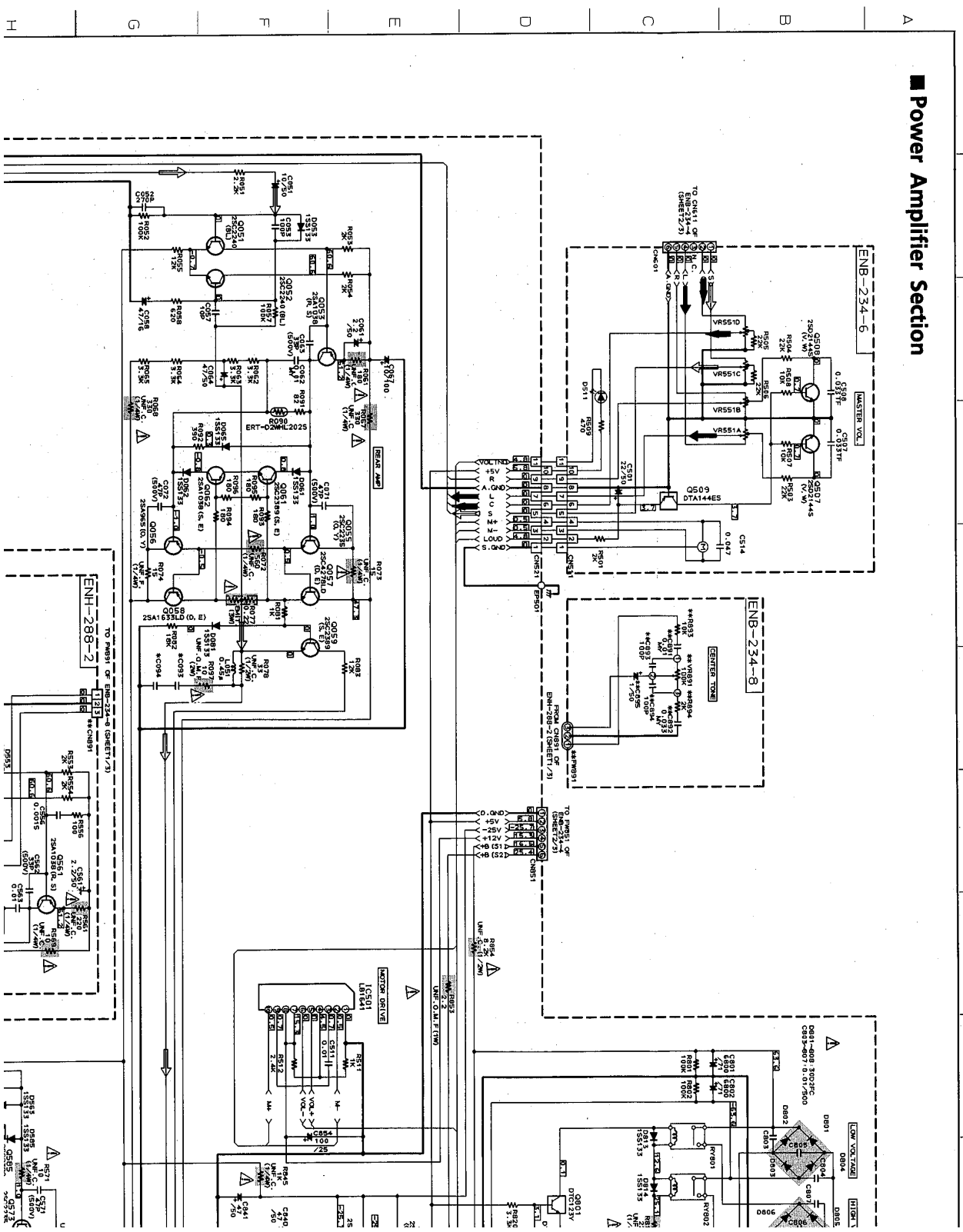


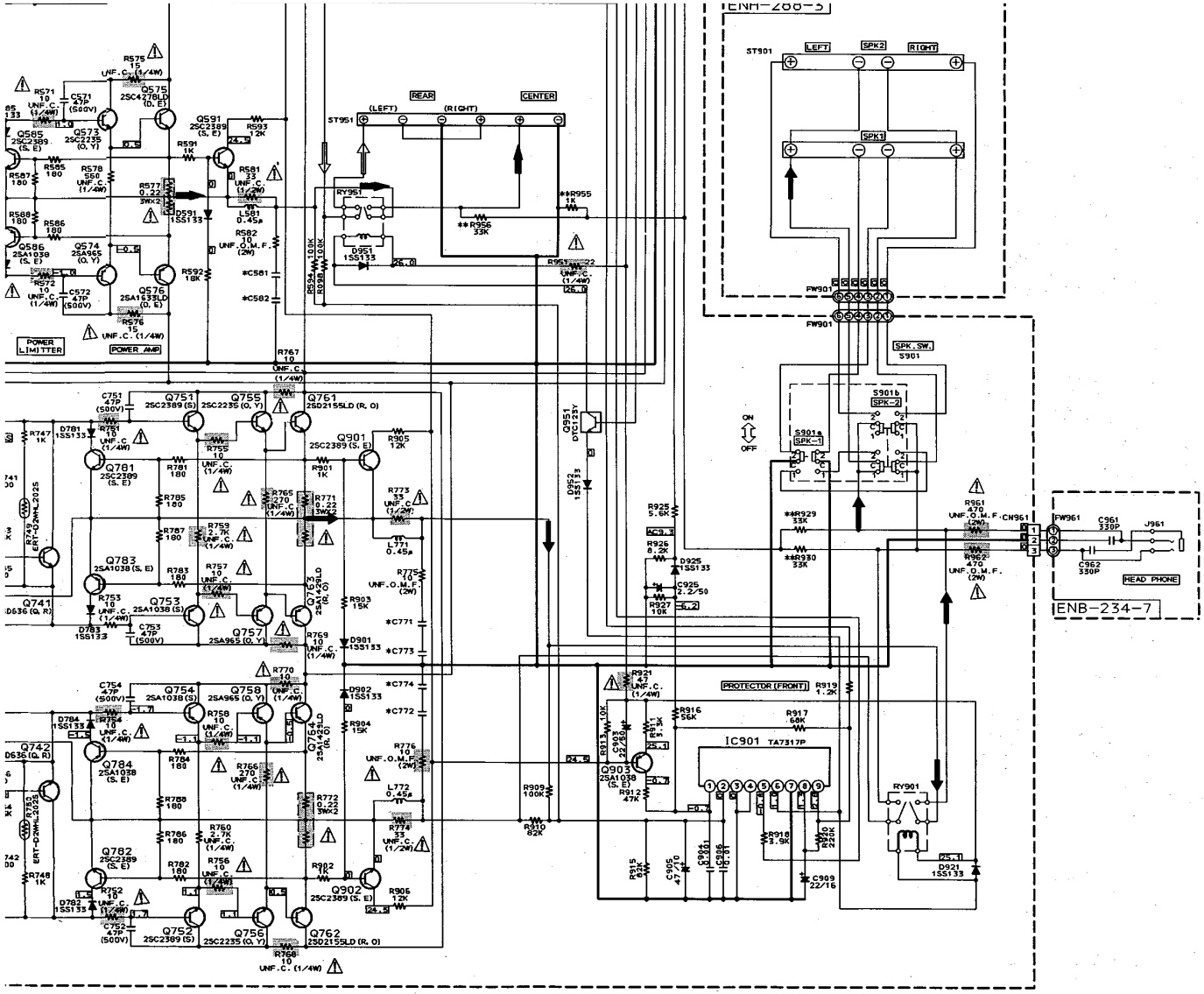

P1-31-c P1-31-d


ENH-288-1
TONE CONTROL
(BASS)
(TREBLE)
BALANCE
POWER LIMITTER
CN702
CN712
CN703
CN701
Q707
2SA1038(R, S)
Q701
2SC1775AV
Q702
2SC1775AV
Q703
2SC1775AV
Q704
2SC1775AV
Q708
2SA1038(R, S)
Q742
2SD696(Q, R)
Q741
2SD696(Q, R)
R750
ERT-D2WHL202S
R749
ERT-D2WHL202S
R740
10
UNF
(1/4W)

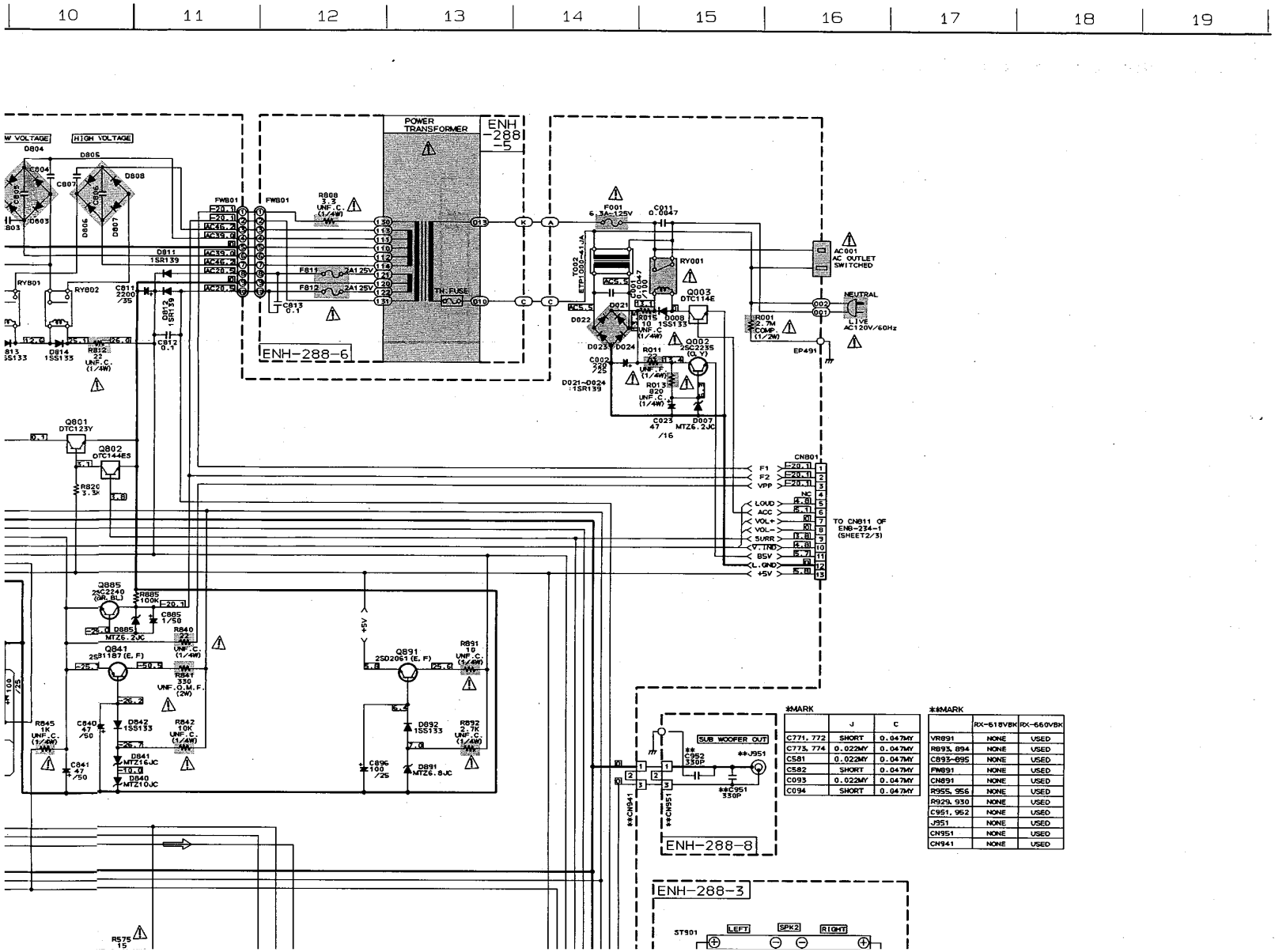
# Schematic Diagrams

## ■ Power Amplifier Section




ENM-288-3
ST901
LEFT
SPK2
RIGHT
SPK1
FW901
SPK. SW.
S901
S901b
SPK-2
S901a
SPK-1
ON
OFF
ST951
REAR
(LEFT)
(RIGHT)
CENTER
RY951
D951
1SS133
POWER LIMITTER
POWER AMP
R767
10
UNF.C
(1/4W)
Q751
2SC2389 (S)
Q755
2SC2235 (O, Y)
Q761
2SD2155LD (R, O)
Q781
2SC2389
(S, E)
Q783
2SA1038 (S, E)
Q753
2SA1038 (S)
Q757
2SA965 (O, Y)
Q754
2SA1038 (S)
Q758
2SA965 (O, Y)
Q784
2SA1038
(S, E)
Q782
2SC2389
(S, E)
Q752
2SC2389 (S)
Q756
2SC2235 (O, Y)
Q762
2SD2155LD (R, O)
Q901
2SC2389 (S, E)
Q902
2SC2389 (S, E)
Q903
2SA1038
(S, E)
IC901 TA7317P
PROTECTOR (FRONT)
RY901
D925
1SS133
D921
1SS133
FW961
C961
330P
J961
C962
330P
HEAD PHONE
ENB-234-7

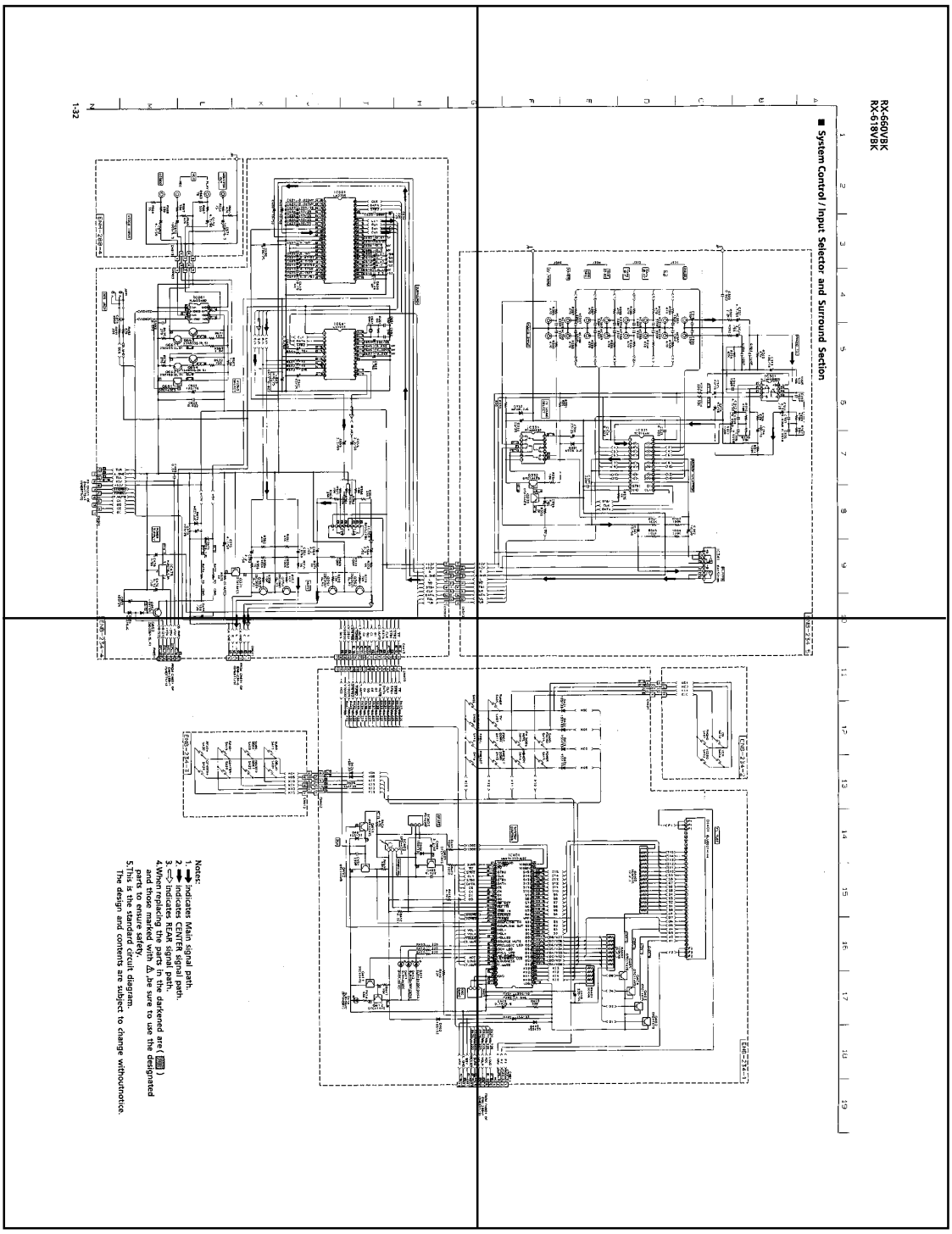
**RX-660VBK**
**RX-618VBK**



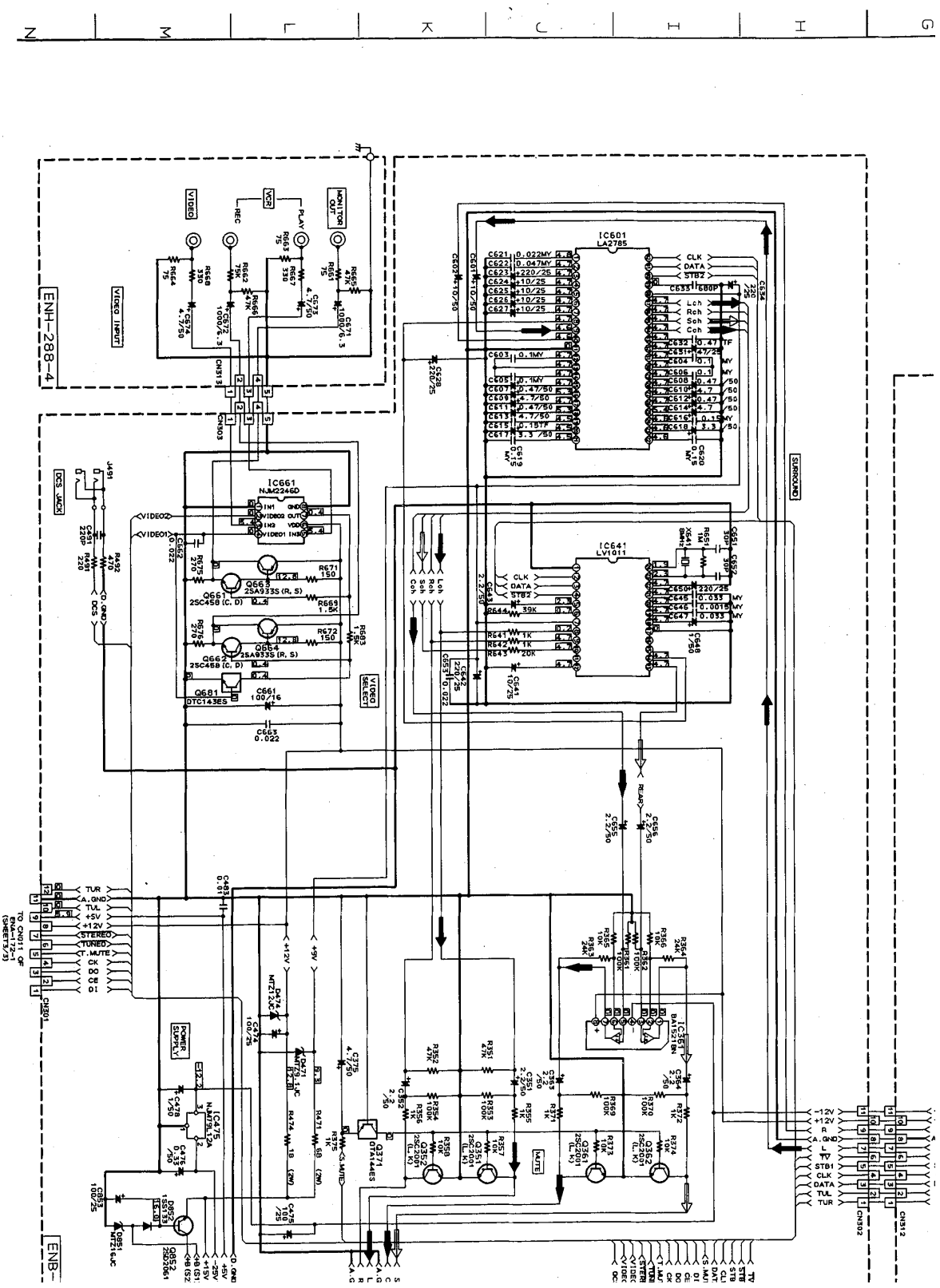

| *MARK | J | C |
|---|---|---|
| C771, 772 | SHORT | 0.047MY |
| C773, 774 | 0.022MY | 0.047MY |
| C581 | 0.022MY | 0.047MY |
| C582 | SHORT | 0.047MY |
| C093 | 0.022MY | 0.047MY |
| C094 | SHORT | 0.047MY |

| **MARK | RX-618VBK | RX-660VBK |
|---|---|---|
| VR891 | NONE | USED |
| R893, 894 | NONE | USED |
| C893-895 | NONE | USED |
| FW891 | NONE | USED |
| CN891 | NONE | USED |
| R955, 956 | NONE | USED |
| R929, 930 | NONE | USED |
| C951, 952 | NONE | USED |
| J951 | NONE | USED |
| CN951 | NONE | USED |
| CN941 | NONE | USED |

P1-32-a P1-32-b

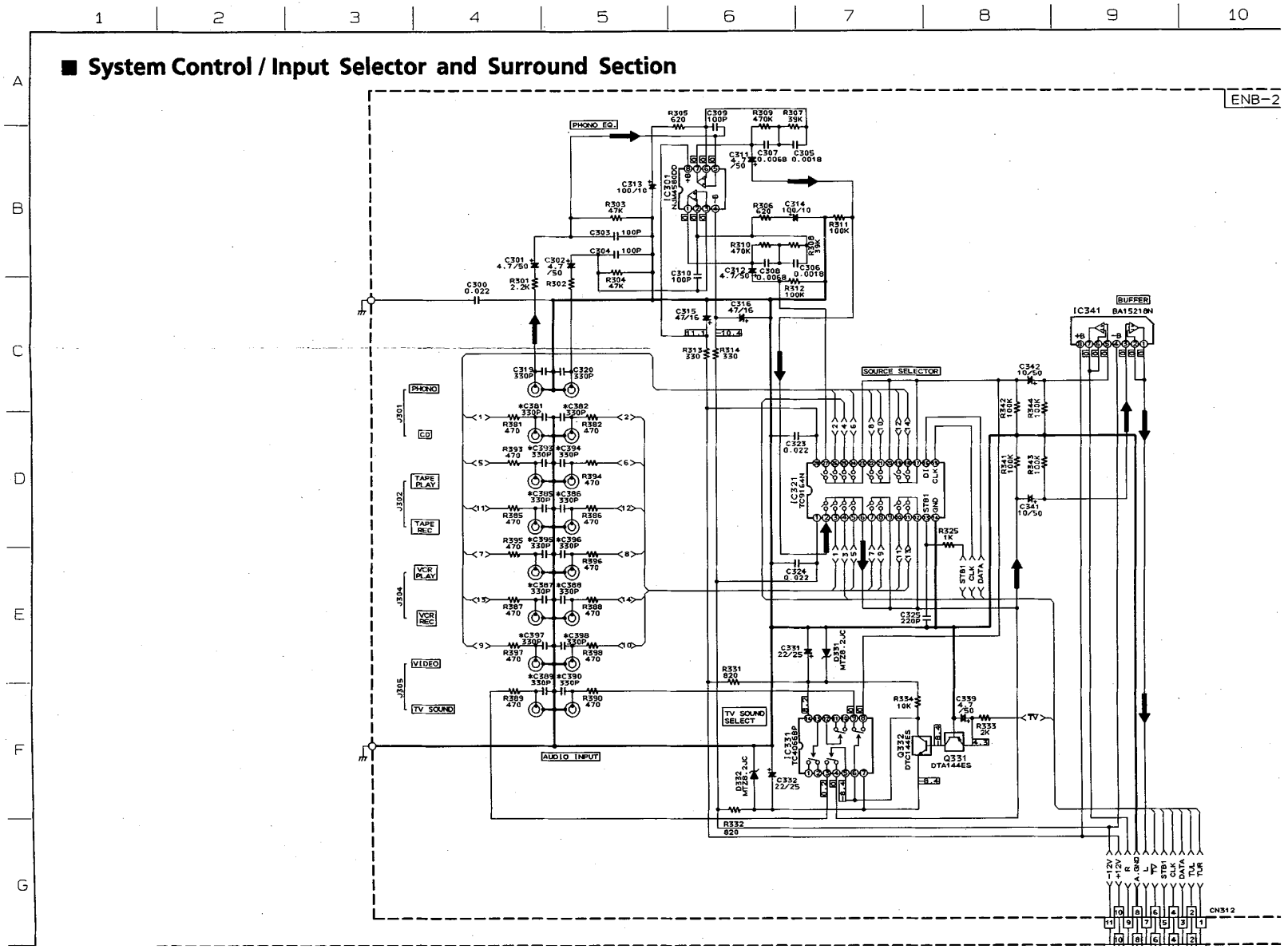

RX-660VBK
RX-618VBK
■ System Control / Input Selector and Surround Section
Notes:
1. ⇒ indicates Main signal path.
2. ⇒ indicates CENTER signal path.
3. ⇨ indicates REAR signal path.
4.When replacing the parts in the darkened are ( ) and those marked with Δ,be sure to use the designated parts to maintain safety.
5.This is the standard circuit diagram.
The design and contents are subject to change withoutnotice.

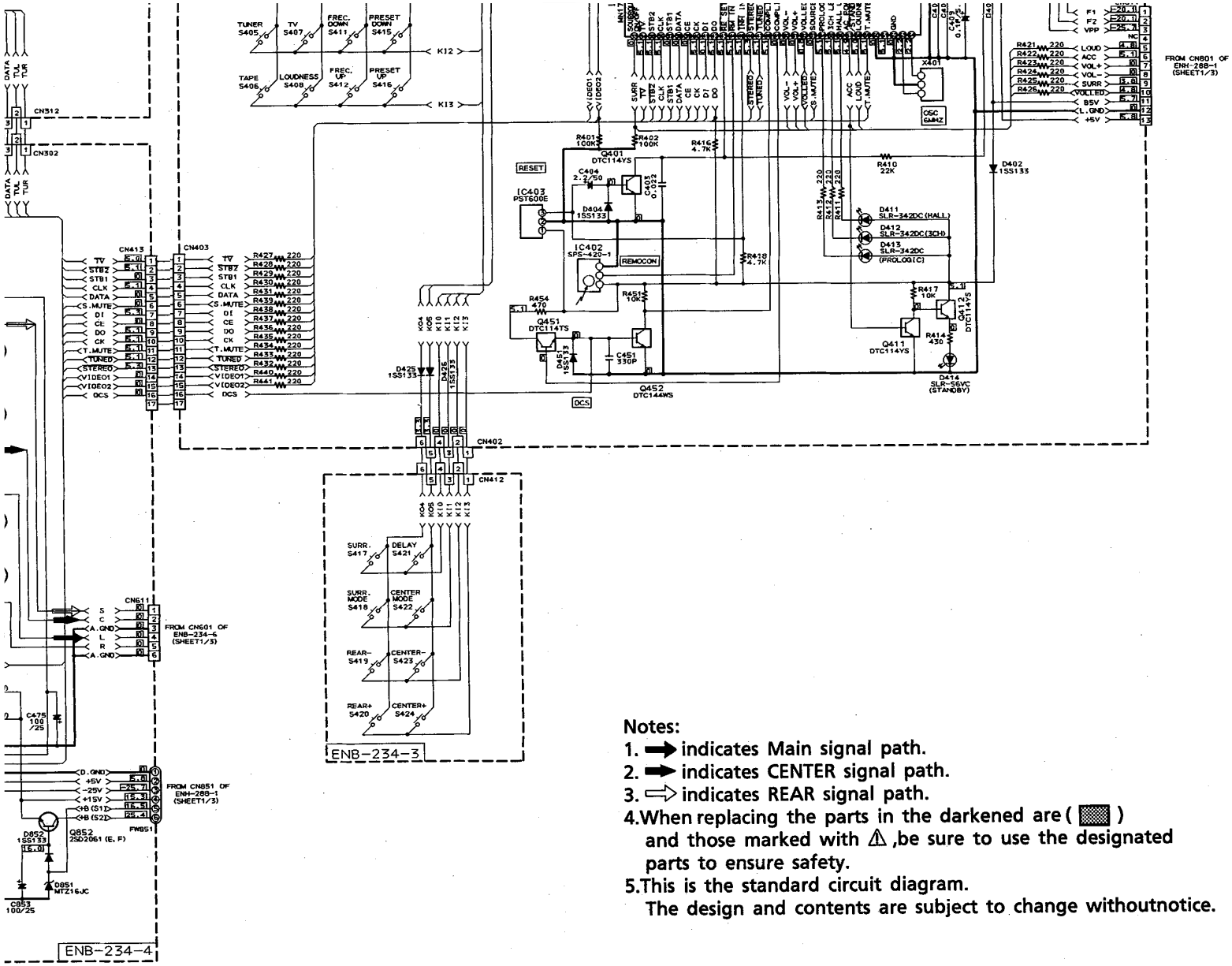
P1-32-c P1-32-d


ENH-288-4
ENB-
IC501
LA2785
IC661
NJM2246D
IC641
LV1011
IC551
BA1521BN
VIDEO
VCR
REC
PLAY
MONITOR OUT
VIDEO INPUT
DCS JACK
VIDEO SELECT
SURROUND
REAR
MUTE
POWER SUPPLY
IC475
NJM78L05A
TO CN311 OF ENA-172-1 (SHEET5/5)
CH301
CH302
CH303
CH312
TUR
A.GND
TUL
+5V
+12V
STEREO
TUNED
MUTE
STB1
CLK
DATA
STB
-12V
+12V
R
A.GND

**RX-660VBK**
**RX-618VBK**

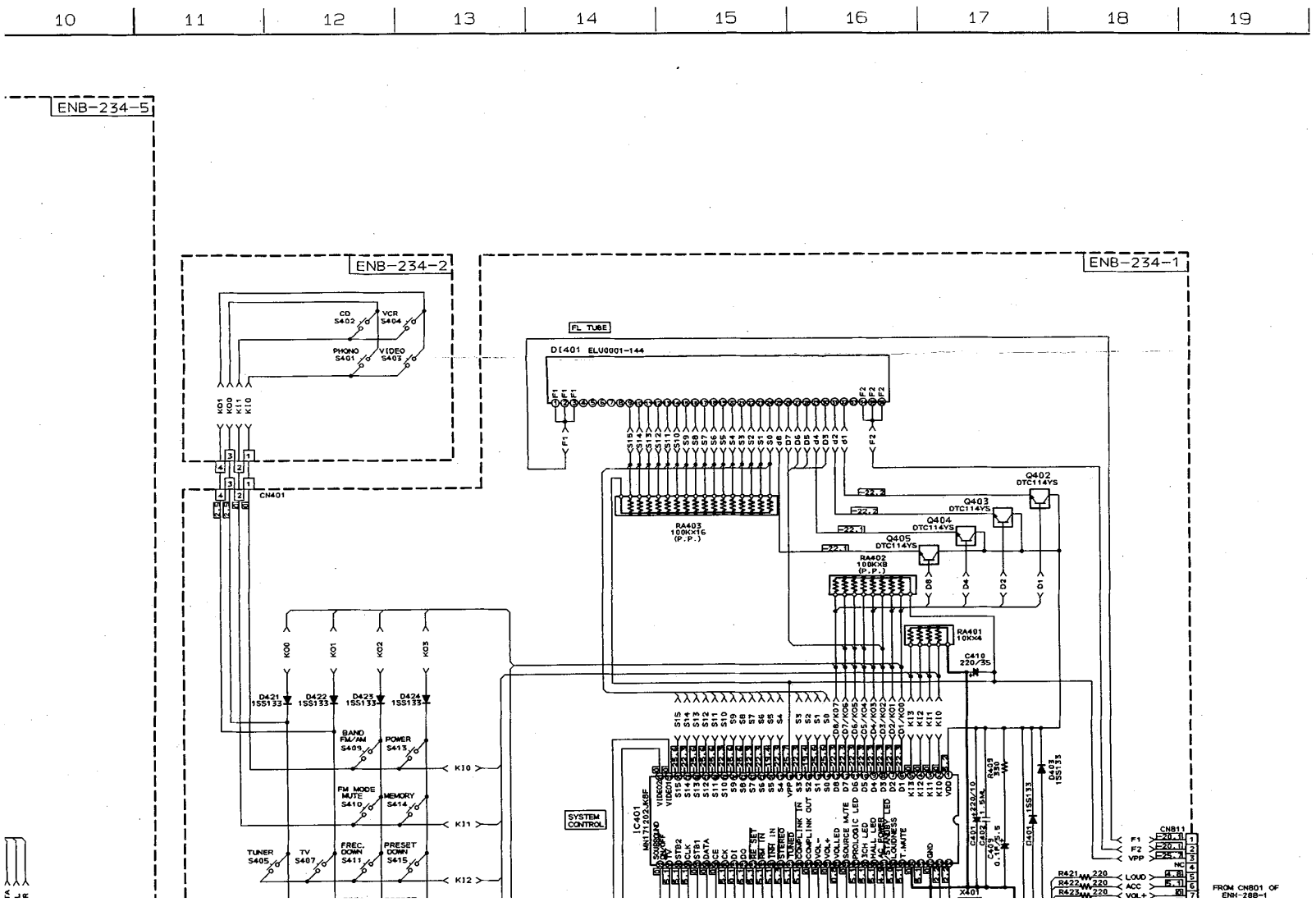
## ■ System Control / Input Selector and Surround Section



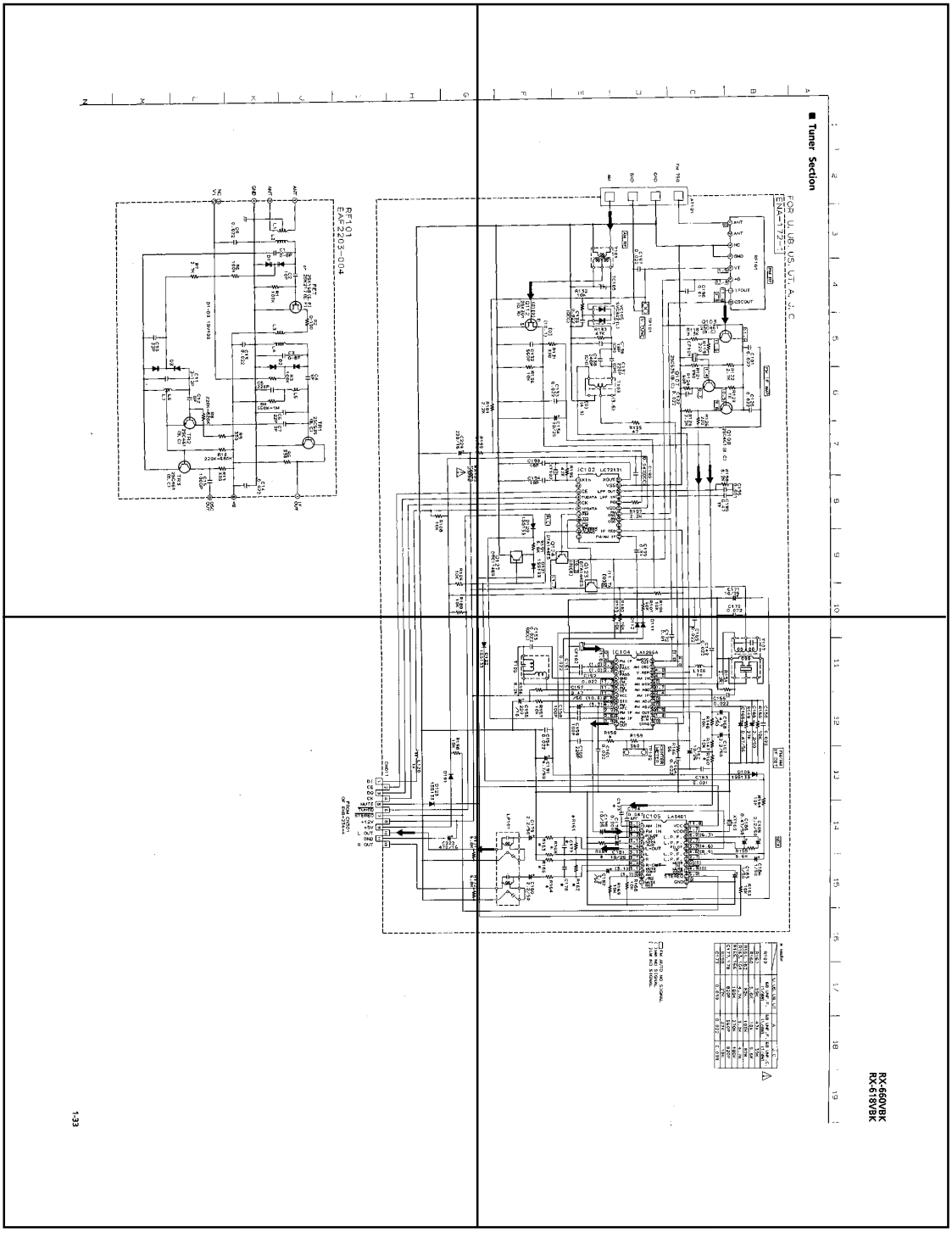



Notes:

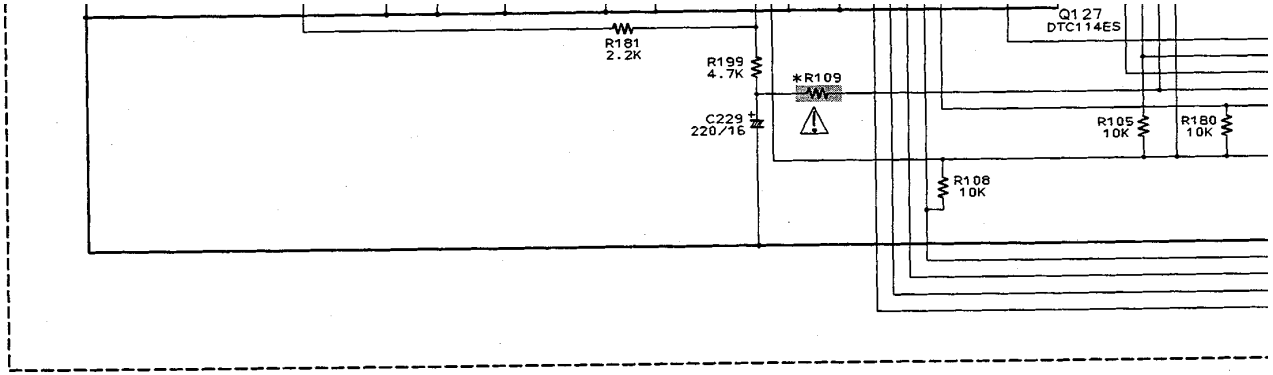
1. ➡ indicates Main signal path.
2. ➡ indicates CENTER signal path.
3. ⇨ indicates REAR signal path.
4. When replacing the parts in the darkened are ( ▩ ) and those marked with ⚠ ,be sure to use the designated parts to ensure safety.
5. This is the standard circuit diagram. The design and contents are subject to change withoutnotice.


10
11
12
13
14
15
16
17
18
19
ENB-234-5
ENB-234-2
ENB-234-1
CD S402
VCR S404
PHONO S401
VIDEO S403
CN401
FL TUBE
D1401 ELU0001-144
RA403 100K×16 (P.P.)
RA402 100K×8 (P.P.)
RA401 10K×4
Q402 DTC114YS
Q403 DTC114YS
Q404 DTC114YS
Q405 DTC114YS
C410 220/35
D421 1SS133
D422 1SS133
D423 1SS133
D424 1SS133
BAND FM/AM S409
POWER S413
FM MODE MUTE S410
MEMORY S414
TUNER S405
TV S407
FREQ. DOWN S411
PRESET DOWN S415
SYSTEM CONTROL
IC401 MN171202A6F
X401
D403 1SS133
D401 1SS133
R421 220
R422 220
R423 220
LOUD
ACC
VOL+
VPP
CN811
FROM CN801 OF ENH-288-1

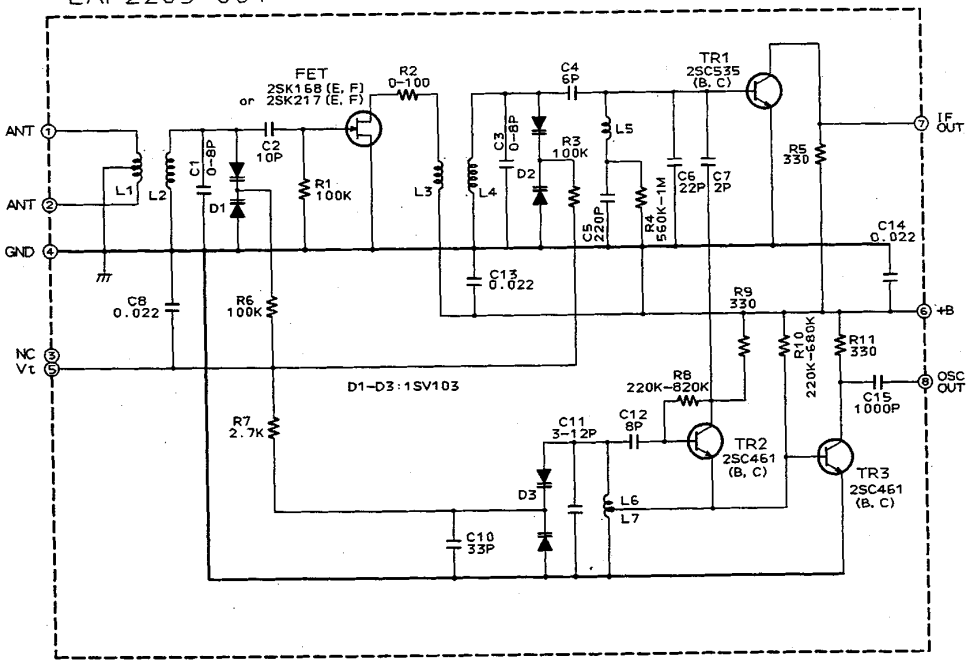
P1-33-a P1-33-b

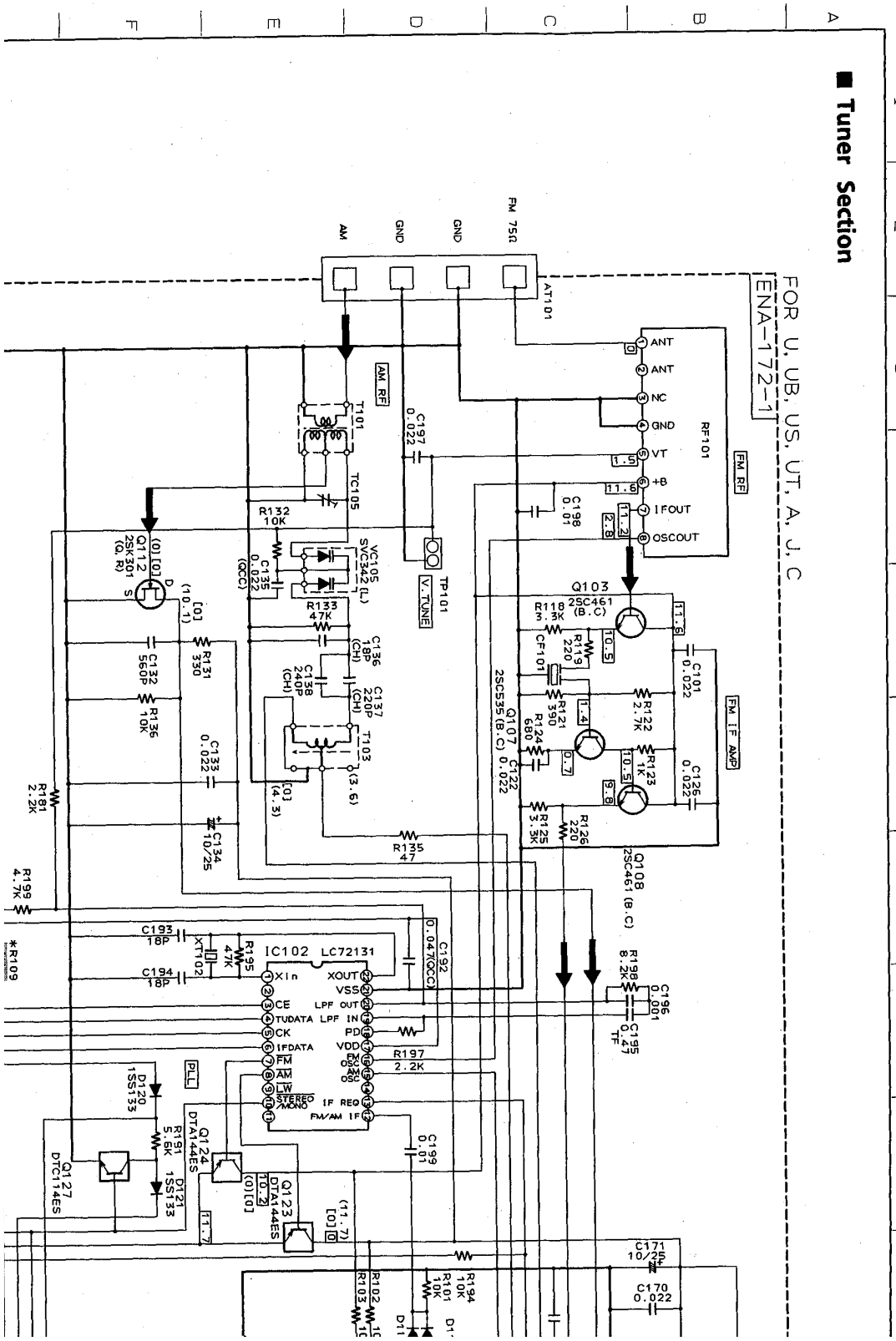


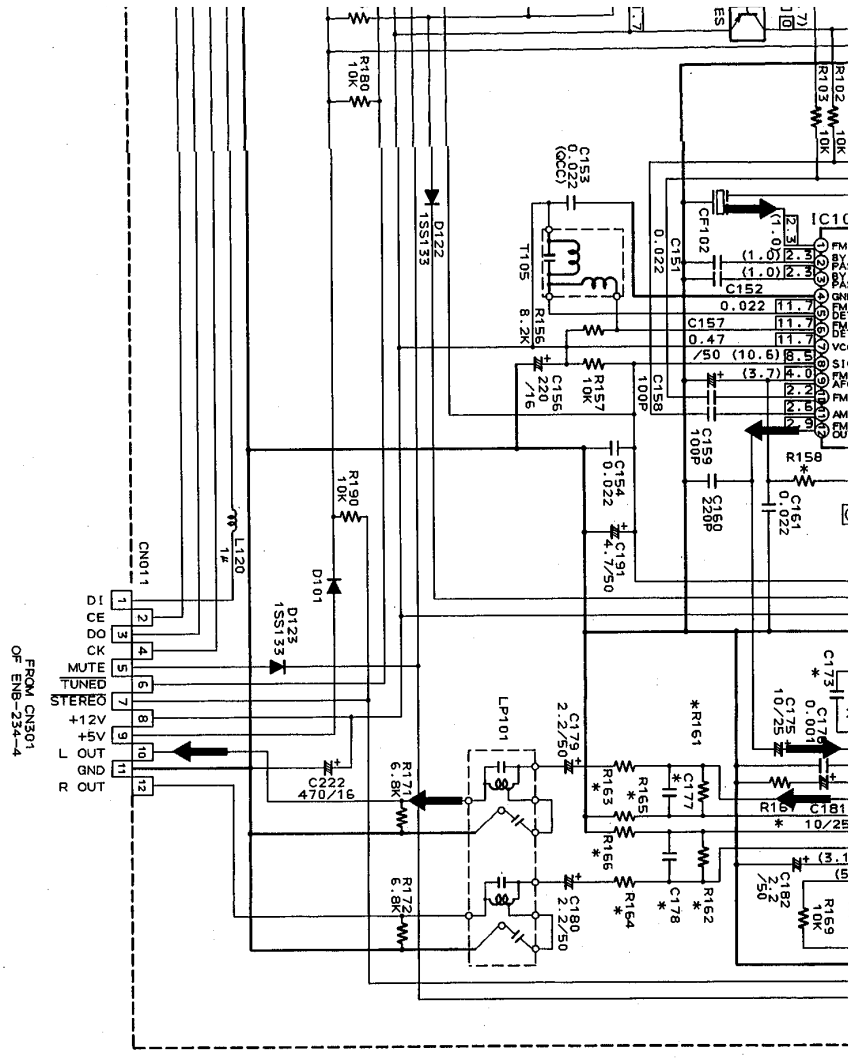

P1-33-c P1-33-d



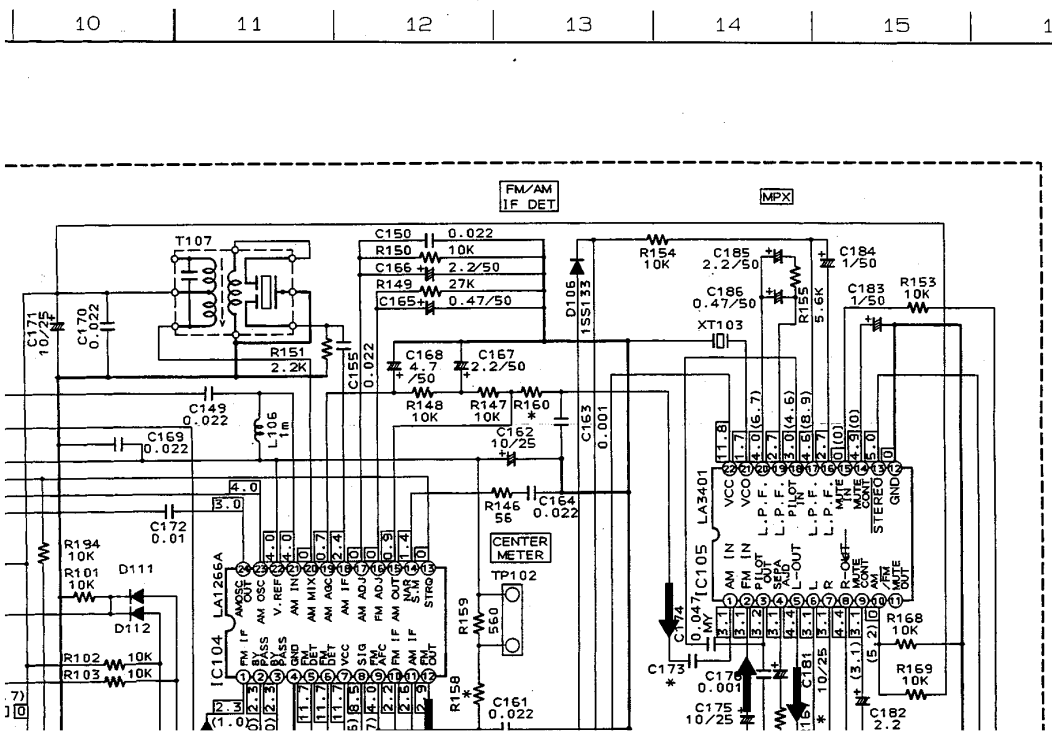

RF101
EAF2203-004




■ Tuner Section
FOR U, UB, US, UT, A, J, C
ENA-172-1
AT101
AM
GND
GND
FM 75Ω
RF101
ANT
ANT
NC
GND
VT
+B
IFOUT
OSCOUT
FM RF
AM RF
T101
TC105
C197 0.022
C198 0.01
R132 10K
C135 0.022 (QCC)
VC105 SVC342 (L)
TP101 V.TUNE
Q112 2SK301 (Q, R)
R133 47K
C136 18P (CH)
C138 240P (CH)
C137 220P (CH)
T103
C132 560P
R131 330
R136 10K
C133 0.022
C134 10/25
R181 2.2K
R199 4.7K
R135 47
Q103 2SC461 (B.C)
R118 3.3K
R119 220
CF101
Q107 2SC535 (B.C)
R121 390
R124 680
C122 0.022
R122 2.7K
R123 1K
C101 0.022
C126 0.022
R125 3.5K
R126 220
FM IF AMP
Q108 2SC461 (B.C)
R198 8.2K
C196 0.001
C195 0.47 TF
IC102 LC72131
Xin
XOUT
VSS
CE
LPF OUT
TUDATA
LPF IN
CK
PD
IFDATA
VDD
FM
AM
LW
STEREO /MONO
IF REQ
FM/AM IF
C193 18P
C194 18P
XT102
R195 47K
C192 0.047(QCC)
R197 2.2K
C199 0.01
PLL
D120 1SS133
D121 1SS133
R191 5.6K
Q124 DTA144ES
Q127 DTC114ES
Q123 DTA144ES
R194 10K
R101 10K
C171 10/16
C170 0.022
*R109


CN011
DI
CE
DO
CK
MUTE
TUNED
STEREO
+12V
+5V
L OUT
GND
R OUT
FROM CN301
OF ENB-234-4
L120
1μ
D101
D122
1SS133
D123
1SS133
R180
10K
R190
10K
C153
0.022
(QCC)
T105
R156
8.2K
C222
470/16
R171
6.8K
R172
6.8K
LP101
C179
2.2/50
C180
2.2/50
R157
10K
C156
220
/16
C154
0.022
C191
4.7/50
C158
100P
C159
100P
C160
220P
R158
C161
0.022
CF102
C151
0.022
C152
0.022
C157
0.47
/50
R102
10K
R103
10K
R159
10K
C182
2.2
/50
C175
10/25
C176
0.001
C181
10/25
R161
R163
R165
R166
R164
R162
C177
C178
R160

**RX-660VBK**
**RX-618VBK**




* MARK

| | U, US, UB, UT | A | J, C |
|---|---|---|---|
| R109 | 68 UNF.F. (1/4W) | 68 UNF.F. (1/4W) | 68 UNF.C. (1/4W) |
| R167 | 39K | 47K | 39K |
| R160 | 5.6K | 10K | 5.6K |
| R161, 162 | 82K | 100K | 82K |
| R163, 164 | 4.7K | 3.3K | 4.7K |
| R165, 166 | 180K | 270K | 180K |
| C177, 178 | 820P | 560P | 820P |
| R158 | 27K | 27K | 18K |
| C173 | 0.039 | 0.022 | 0.039 |

□ FM AUTO NO SIGNAL
( ) MW NO SIGNAL
[ ] LW NO SIGNAL

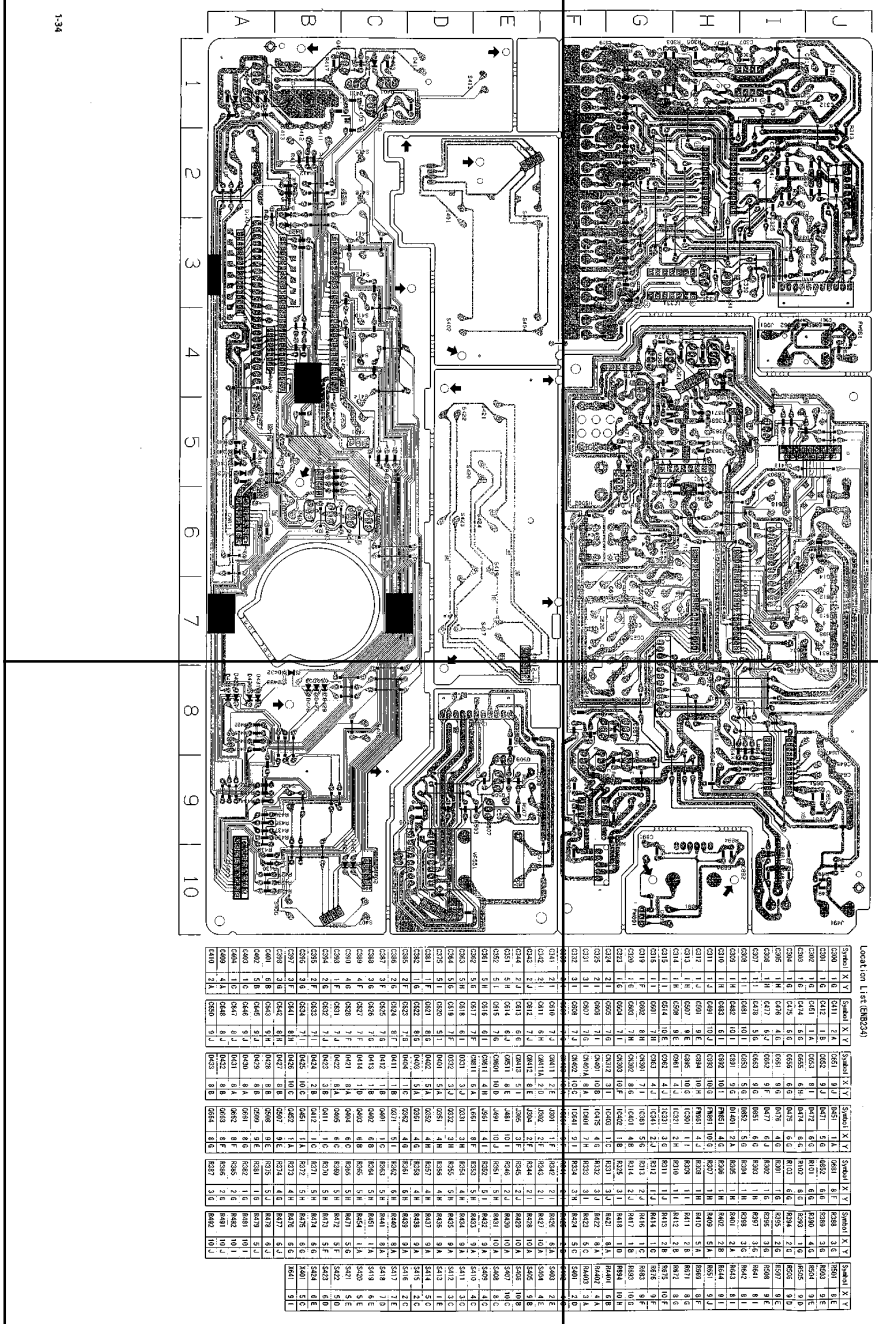
P1-34-a

P1-34-b

RX-660VBK
RX-618VBK

## Printed Circuit Boards

■ System Control / Input Selector and Surround P.C. Board (ENB 234)



Location List (ENB234)

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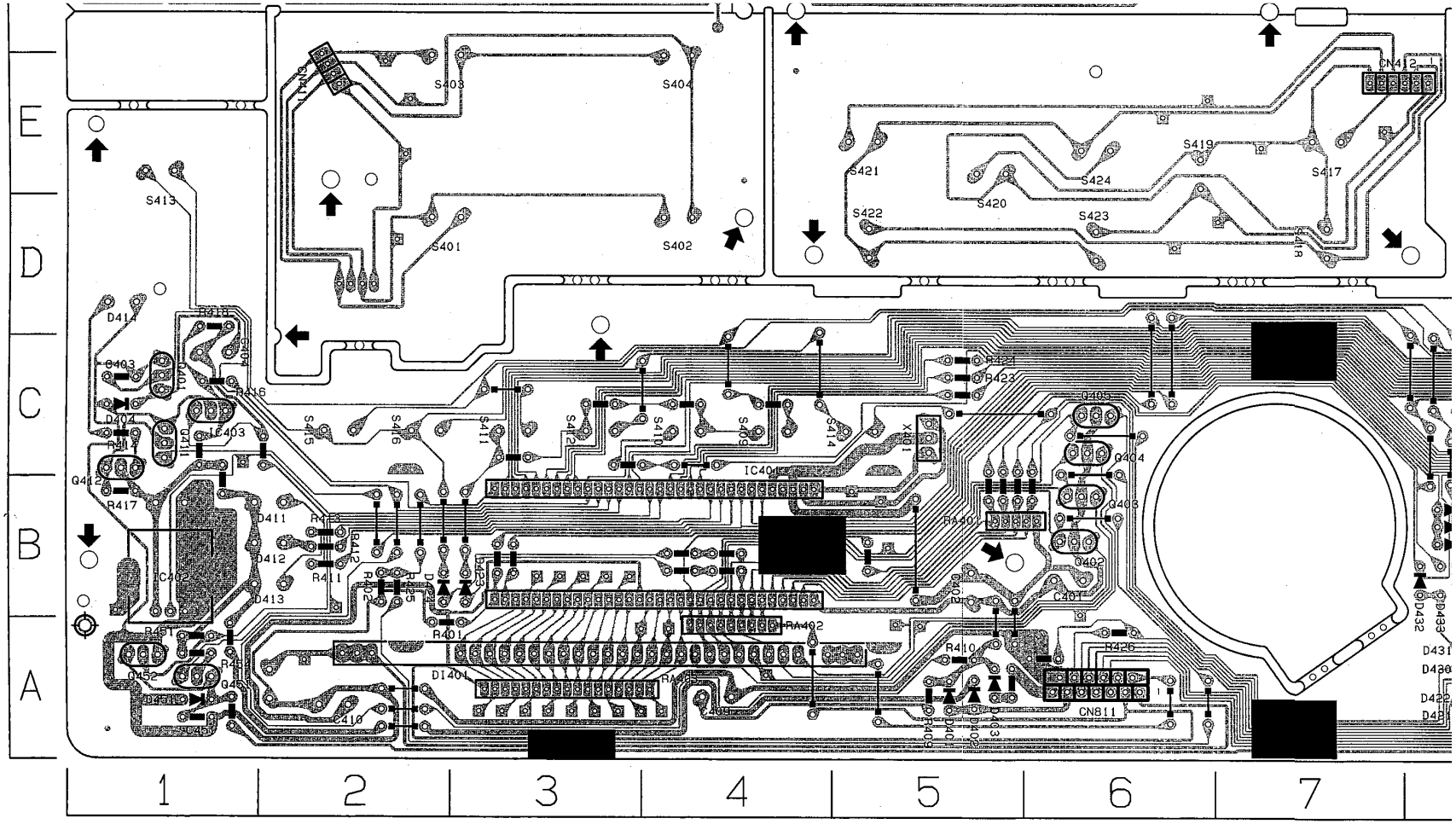
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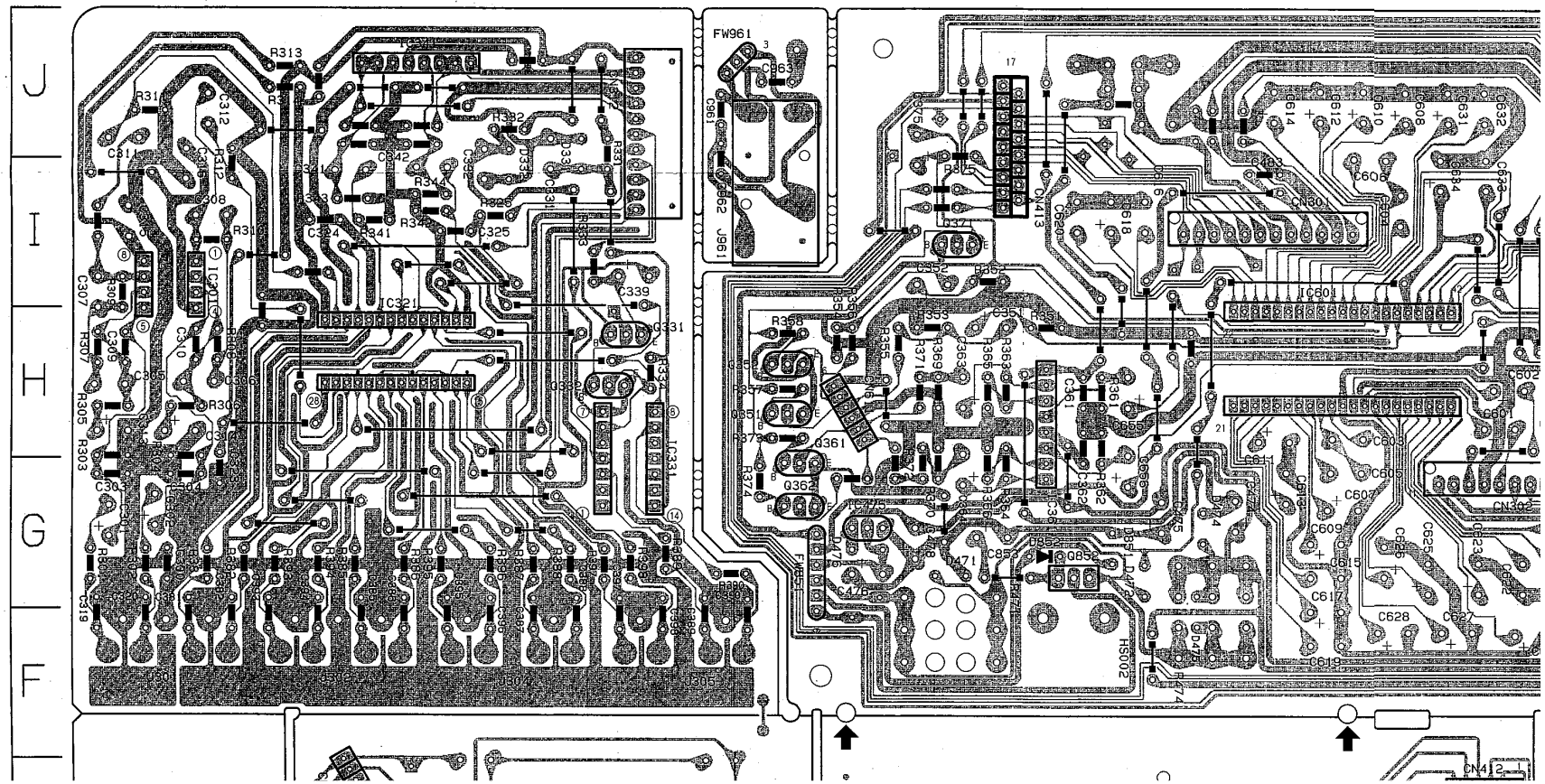
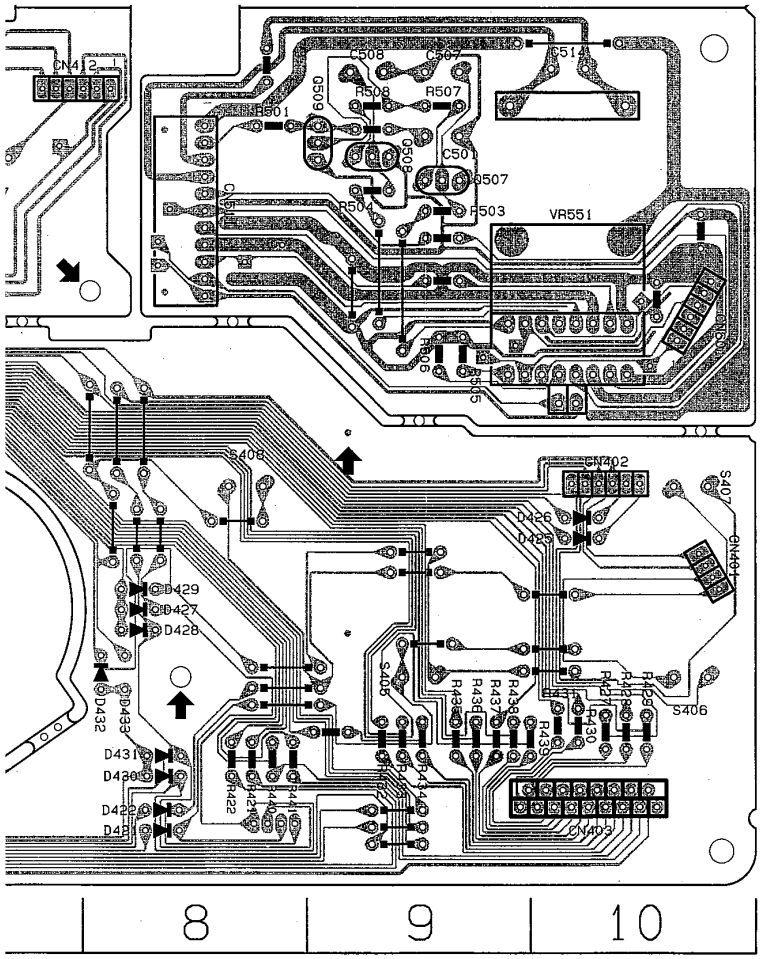
RX-660VBK
RX-618VBK

# Printed Circuit Boards

## ■ System Control / Input Selector and Surround P.C. Board (ENB-234)



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| C364 | 5 | G |
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| C620 | 5 | I |
| C621 | 8 | G |
| C622 | 8 | G |
| C623 | 7 | G |
| C624 | 8 | F |
| C625 | 7 | G |
| C626 | 7 | G |
| C627 | 7 | F |
| C628 | 7 | F |
| C631 | 7 | J |
| C632 | 7 | J |
| C633 | 7 | I |
| C634 | 7 | I |
| C641 | 8 | H |
| C642 | 8 | H |
| C643 | 9 | H |
| C645 | 9 | J |
| C646 | 9 | J |
| C647 | 8 | J |
| C648 | 8 | J |
| C650 | 9 | J |

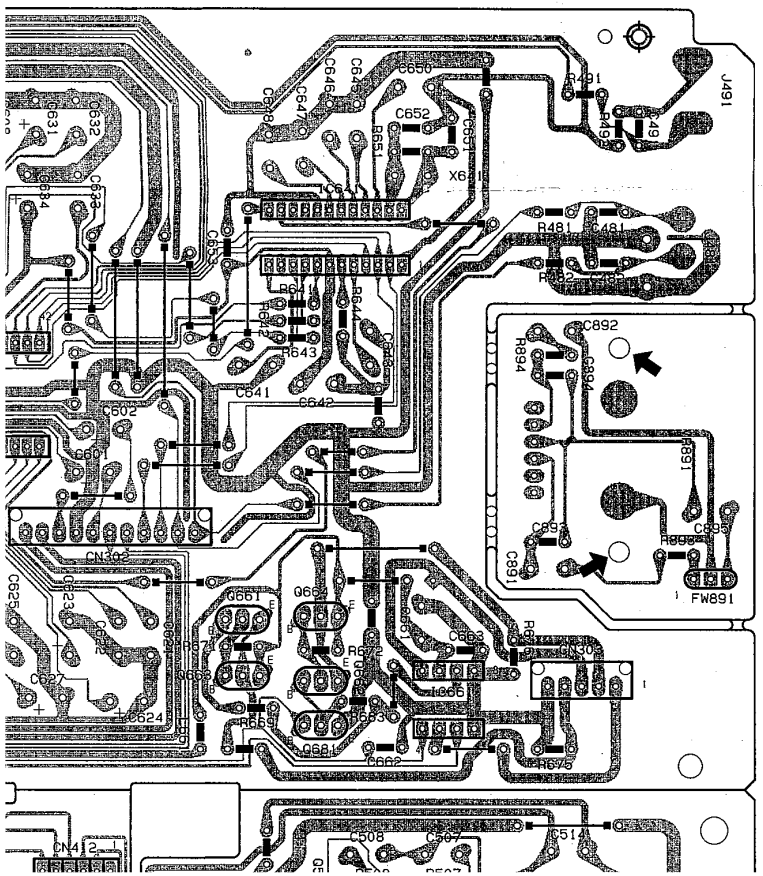
| | | |
|---|---|---|
| CN411 | 2 | E |
| CN411A | 2 | D |
| CN412 | 8 | E |
| CN413 | 5 | I |
| CN511 | 8 | E |
| CN601 | 10 | D |
| CN611 | 4 | H |
| CN811 | 6 | A |
| D331 | 3 | J |
| D332 | 3 | J |
| D401 | 5 | A |
| D402 | 5 | A |
| D403 | 5 | A |
| D404 | 1 | C |
| D411 | 1 | B |
| D412 | 1 | B |
| D413 | 1 | B |
| D414 | 1 | D |
| D421 | 8 | A |
| D422 | 8 | A |
| D423 | 3 | B |
| D424 | 2 | B |
| D425 | 10 | C |
| D426 | 10 | C |
| D427 | 8 | B |
| D428 | 8 | B |
| D429 | 8 | B |
| D430 | 8 | A |
| D431 | 8 | A |
| D432 | 8 | B |
| D433 | 8 | B |

| | | |
|---|---|---|
| J301 | 1 | F |
| J302 | 2 | F |
| J304 | 2 | F |
| J305 | 3 | F |
| J481 | 10 | I |
| J491 | 10 | J |
| J961 | 4 | I |
| L661 | 8 | F |
| Q331 | 3 | H |
| Q332 | 3 | H |
| Q351 | 4 | H |
| Q352 | 4 | H |
| Q361 | 4 | G |
| Q362 | 4 | G |
| Q371 | 5 | I |
| Q401 | 1 | C |
| Q402 | 6 | B |
| Q403 | 6 | B |
| Q404 | 6 | C |
| Q405 | 6 | C |
| Q411 | 1 | C |
| Q412 | 1 | C |
| Q451 | 1 | A |
| Q452 | 1 | A |
| Q507 | 9 | E |
| Q508 | 9 | E |
| Q509 | 9 | E |
| Q661 | 8 | G |
| Q662 | 8 | F |
| Q663 | 8 | F |
| Q664 | 8 | G |

| | | |
|---|---|---|
| R342 | 2 | I |
| R343 | 2 | I |
| R344 | 2 | I |
| R345 | 2 | J |
| R346 | 2 | J |
| R351 | 5 | H |
| R352 | 5 | I |
| R353 | 5 | H |
| R354 | 4 | H |
| R355 | 5 | H |
| R356 | 4 | H |
| R357 | 4 | H |
| R358 | 4 | H |
| R361 | 6 | H |
| R362 | 6 | H |
| R363 | 5 | H |
| R364 | 5 | H |
| R365 | 5 | H |
| R366 | 5 | H |
| R369 | 5 | H |
| R370 | 5 | H |
| R371 | 5 | H |
| R372 | 5 | H |
| R373 | 4 | H |
| R374 | 4 | G |
| R375 | 5 | J |
| R381 | 1 | G |
| R382 | 1 | G |
| R385 | 2 | G |
| R386 | 2 | G |
| R387 | 3 | G |

| | | |
|---|---|---|
| R426 | 6 | A |
| R427 | 10 | A |
| R428 | 10 | A |
| R429 | 10 | A |
| R430 | 10 | A |
| R431 | 10 | A |
| R432 | 9 | A |
| R433 | 9 | A |
| R434 | 9 | A |
| R435 | 9 | A |
| R436 | 9 | A |
| R437 | 9 | A |
| R438 | 9 | A |
| R439 | 9 | A |
| R440 | 8 | A |
| R441 | 8 | A |
| R451 | 1 | A |
| R454 | 1 | A |
| R471 | 5 | G |
| R472 | 5 | F |
| R473 | 5 | F |
| R474 | 6 | G |
| R475 | 6 | G |
| R476 | 6 | G |
| R477 | 6 | J |
| R478 | 6 | J |
| R479 | 5 | J |
| R481 | 10 | I |
| R482 | 10 | I |
| R491 | 10 | J |
| R492 | 10 | J |

| | | |
|---|---|---|
| S403 | 2 | E |
| S404 | 4 | E |
| S405 | 9 | B |
| S406 | 10 | B |
| S407 | 10 | C |
| S408 | 8 | C |
| S409 | 4 | C |
| S410 | 4 | C |
| S411 | 3 | C |
| S412 | 3 | C |
| S413 | 1 | E |
| S414 | 5 | C |
| S415 | 2 | C |
| S416 | 2 | C |
| S417 | 7 | E |
| S418 | 7 | D |
| S419 | 6 | E |
| S420 | 5 | E |
| S421 | 5 | E |
| S422 | 5 | D |
| S423 | 6 | D |
| S424 | 6 | E |
| X401 | 5 | C |
| X641 | 9 | I |




Location List(ENB234)

| Symbol | X | Y |
|---|---|---|
| C300 | 1 | G |
| C301 | 1 | G |
| C302 | 1 | G |
| C303 | 1 | G |
| C304 | 1 | G |
| C305 | 1 | H |
| C306 | 1 | H |
| C307 | 1 | I |
| C308 | 1 | I |
| C309 | 1 | H |
| C310 | 1 | H |
| C311 | 1 | J |
| C312 | 1 | J |
| C313 | 1 | H |
| C314 | 1 | H |
| C315 | 1 | I |
| C316 | 1 | I |
| C319 | 1 | F |
| C320 | 1 | G |
| C323 | 1 | G |
| C324 | 2 | I |
| C325 | 2 | I |
| C331 | 3 | I |
| C332 | 3 | I |
| C339 | 3 | I |
| C341 | 2 | I |
| C342 | 2 | I |
| C343 | 2 | J |

| Symbol | X | Y |
|---|---|---|
| C411 | 2 | A |
| C412 | 1 | B |
| C451 | 1 | A |
| C474 | 6 | G |
| C475 | 6 | G |
| C476 | 4 | G |
| C477 | 6 | J |
| C478 | 5 | G |
| C481 | 10 | I |
| C482 | 10 | I |
| C483 | 6 | I |
| C491 | 10 | J |
| C501 | 9 | E |
| C507 | 9 | E |
| C508 | 9 | E |
| C514 | 10 | E |
| C601 | 7 | H |
| C602 | 8 | H |
| C603 | 7 | H |
| C604 | 7 | I |
| C605 | 7 | G |
| C606 | 7 | I |
| C607 | 7 | G |
| C608 | 7 | J |
| C609 | 7 | G |
| C610 | 7 | J |
| C611 | 6 | H |
| C612 | 7 | J |

| Symbol | X | Y |
|---|---|---|
| C651 | 9 | J |
| C652 | 9 | J |
| C653 | 8 | I |
| C655 | 6 | H |
| C656 | 6 | G |
| C661 | 9 | G |
| C662 | 9 | F |
| C663 | 9 | G |
| C853 | 5 | G |
| C891 | 9 | G |
| C892 | 10 | I |
| C893 | 10 | G |
| C894 | 10 | H |
| C895 | 10 | G |
| C961 | 4 | J |
| C962 | 4 | J |
| C963 | 4 | J |
| CN301 | 7 | I |
| CN302 | 8 | G |
| CN303 | 10 | F |
| CN312 | 3 | I |
| CN401 | 10 | B |
| CN401A | 8 | A |
| CN402 | 10 | C |
| CN403 | 10 | A |
| CN411 | 2 | E |
| CN411A | 2 | D |
| CN412 | 8 | E |

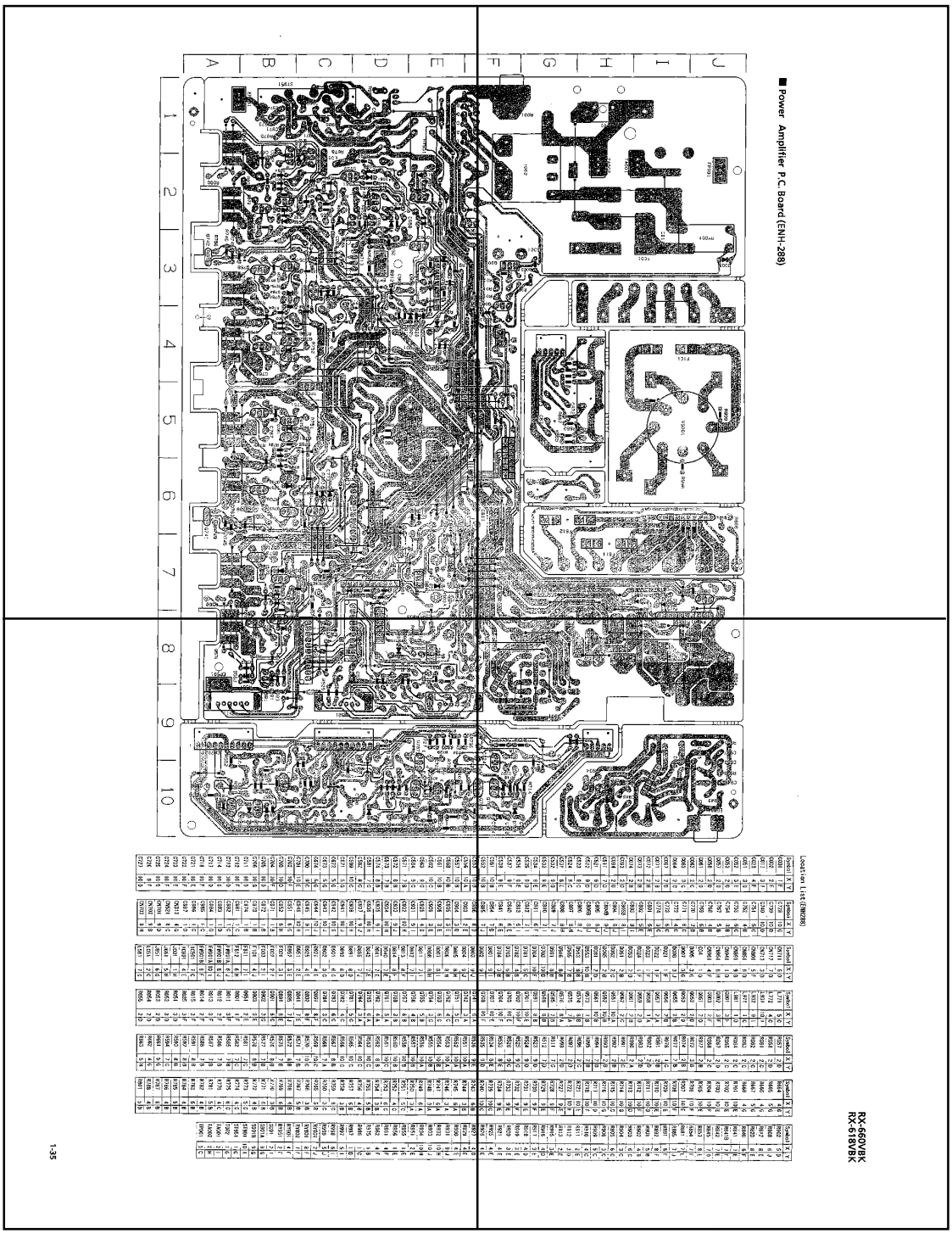
| Symbol | X | Y |
|---|---|---|
| D451 | 1 | A |
| D471 | 5 | G |
| D472 | 6 | G |
| D474 | 6 | G |
| D475 | 6 | G |
| D476 | 4 | G |
| D477 | 6 | J |
| D851 | 6 | G |
| D852 | 5 | G |
| DI401 | 2 | A |
| FW851 | 4 | G |
| FW891 | 10 | G |
| FW961 | 4 | J |
| IC301 | 1 | I |
| IC321 | 2 | H |
| IC331 | 3 | G |
| IC341 | 2 | J |
| IC361 | 5 | G |
| IC401 | 4 | B |
| IC402 | 1 | B |
| IC403 | 1 | C |
| IC475 | 4 | G |
| IC601 | 7 | H |
| IC641 | 9 | I |
| IC661 | 9 | F |
| J301 | 1 | F |
| J302 | 2 | F |
| J304 | 2 | F |

| Symbol | X | Y |
|---|---|---|
| Q681 | 8 | F |
| Q852 | 6 | G |
| R101 | 6 | G |
| R102 | 6 | G |
| R103 | 6 | G |
| R301 | 1 | G |
| R302 | 1 | G |
| R303 | 1 | H |
| R304 | 1 | H |
| R305 | 1 | H |
| R306 | 1 | H |
| R307 | 1 | H |
| R308 | 1 | H |
| R309 | 1 | I |
| R310 | 1 | I |
| R311 | 1 | J |
| R312 | 1 | J |
| R313 | 2 | J |
| R314 | 2 | J |
| R325 | 3 | I |
| R331 | 3 | J |
| R332 | 3 | J |
| R333 | 3 | I |
| R334 | 3 | H |
| R341 | 2 | I |
| R342 | 2 | I |
| R343 | 2 | I |
| R344 | 2 | I |

| Symbol | X | Y |
|---|---|---|
| R388 | 3 | G |
| R389 | 3 | G |
| R390 | 4 | G |
| R393 | 1 | G |
| R394 | 2 | G |
| R395 | 2 | G |
| R396 | 3 | G |
| R397 | 3 | G |
| R398 | 3 | G |
| R401 | 2 | A |
| R402 | 2 | B |
| R409 | 5 | A |
| R410 | 5 | A |
| R411 | 2 | B |
| R412 | 2 | B |
| R413 | 2 | B |
| R414 | 1 | C |
| R416 | 1 | C |
| R417 | 1 | B |
| R418 | 1 | D |
| R421 | 8 | A |
| R422 | 8 | A |
| R423 | 5 | C |
| R424 | 5 | C |
| R425 | 2 | B |
| R426 | 6 | A |
| R427 | 10 | A |
| R428 | 10 | A |

| Symbol | X | Y |
|---|---|---|
| R501 | 8 | E |
| R503 | 9 | E |
| R504 | 9 | E |
| R505 | 9 | D |
| R506 | 9 | D |
| R507 | 9 | E |
| R508 | 9 | E |
| R641 | 8 | I |
| R642 | 8 | I |
| R643 | 8 | I |
| R644 | 9 | I |
| R651 | 9 | J |
| R669 | 8 | F |
| R671 | 8 | G |
| R672 | 8 | G |
| R675 | 10 | F |
| R676 | 9 | F |
| R683 | 9 | F |
| R893 | 10 | G |
| R894 | 10 | H |
| RA401 | 6 | B |
| RA402 | 4 | A |
| RA403 | 3 | A |
| S401 | 2 | D |
| S402 | 4 | D |
| S403 | 2 | E |
| S404 | 4 | E |
| S405 | 9 | B |

P1-35-a P1-35-b



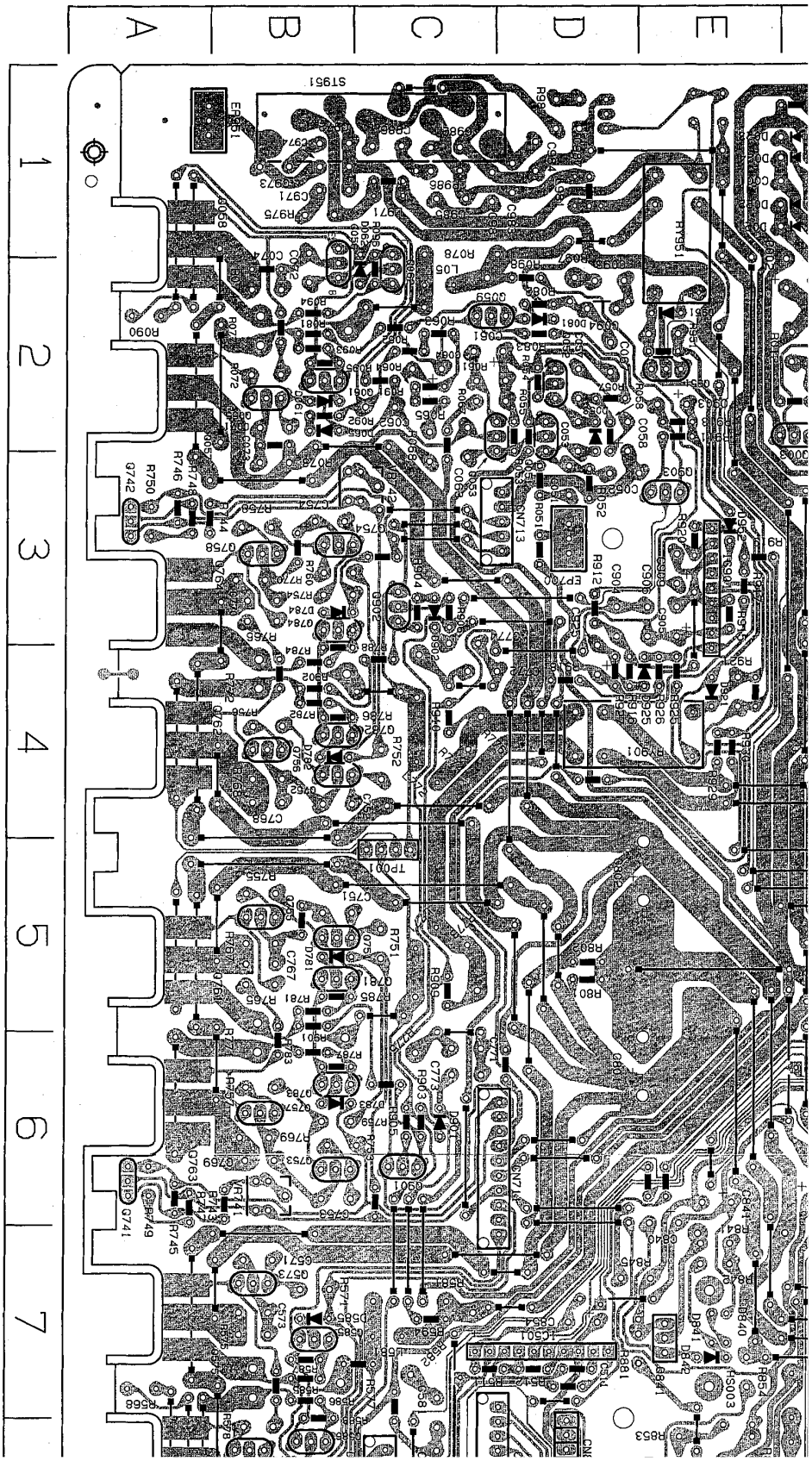
■ Power Amplifier P.C. Board (ENH-289)

Location List (CMK008)

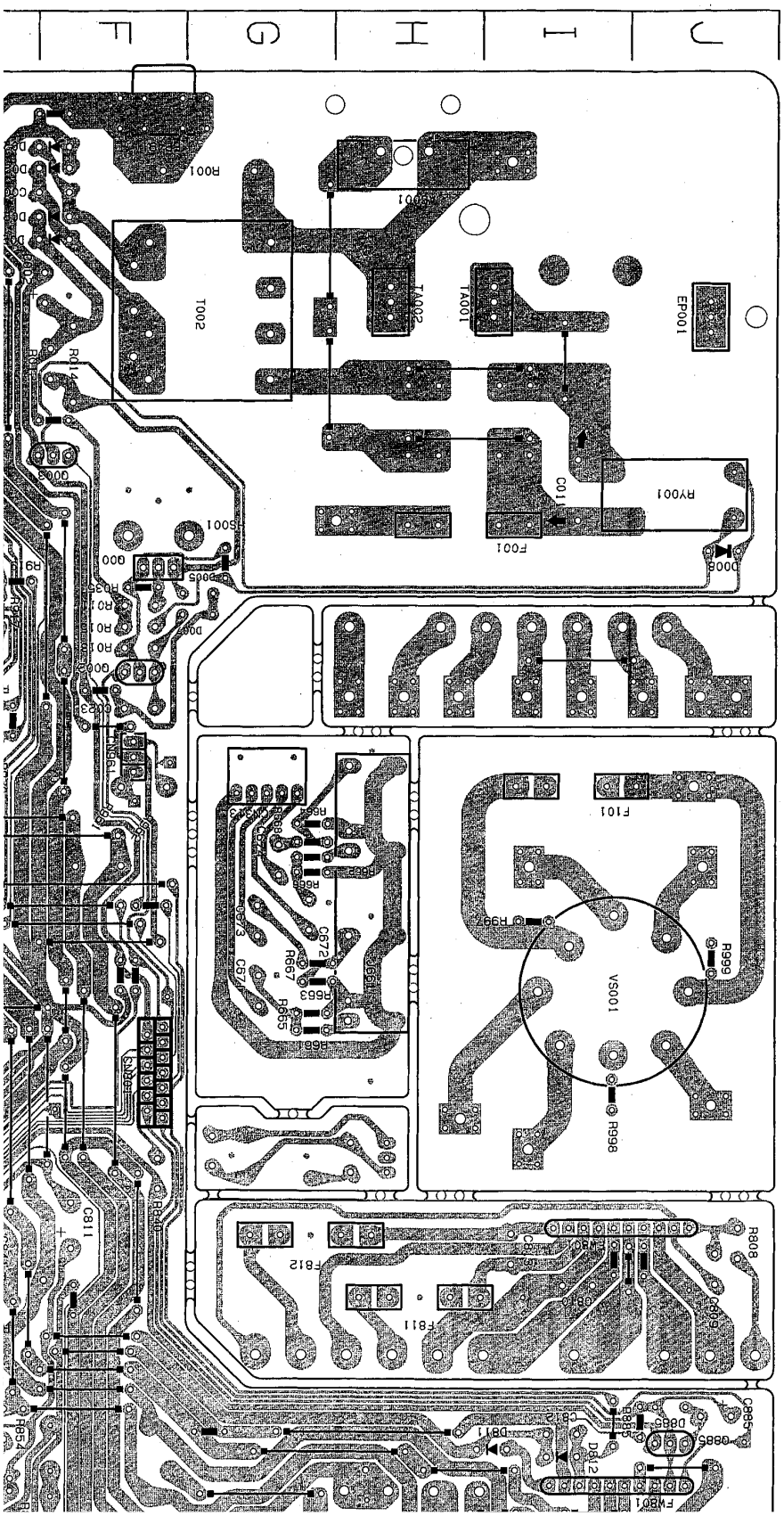
RX-669VBK
RX-919VBK

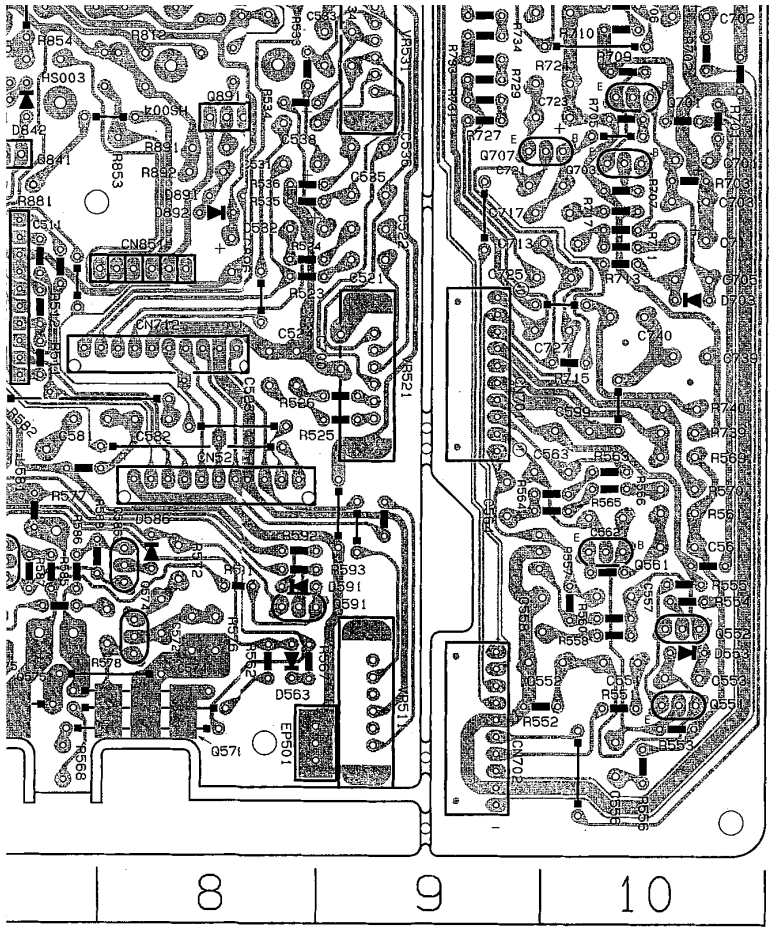
1-35

P1-35-c P1-35-d


A
B
C
D
E
1
2
3
4
5
6
7

## ■ Power Amplifier P.C. Board (ENH-288)






| | | |
|---|---|---|
| C556 | 10 | A |
| C557 | 10 | B |
| C558 | 10 | B |
| C561 | 10 | B |
| C562 | 10 | C |
| C563 | 9 | C |
| C564 | 9 | C |
| C571 | 7 | B |
| C572 | 8 | B |
| C573 | 7 | B |
| C574 | 8 | B |
| C581 | 7 | C |
| C582 | 8 | C |
| C599 | 10 | C |
| C671 | 5 | G |
| C672 | 5 | G |
| C673 | 5 | G |
| C674 | 5 | G |
| C700 | 9 | C |
| C701 | 10 | E |
| C702 | 10 | F |
| C703 | 10 | D |
| C704 | 10 | F |
| C705 | 10 | D |
| C706 | 10 | G |
| C711 | 10 | D |
| C712 | 10 | F |
| C713 | 10 | D |
| C714 | 10 | G |
| C717 | 10 | D |
| C718 | 10 | F |
| C721 | 10 | E |
| C722 | 10 | F |
| C723 | 10 | E |
| C724 | 10 | F |
| C725 | 10 | D |
| C726 | 9 | F |
| C727 | 10 | D |

| | | |
|---|---|---|
| C903 | 2 | E |
| C904 | 3 | D |
| C905 | 3 | E |
| C906 | 3 | E |
| C909 | 3 | E |
| C925 | 4 | D |
| C931 | 9 | I |
| C932 | 10 | H |
| C933 | 9 | J |
| C934 | 10 | H |
| C935 | 9 | I |
| C936 | 10 | H |
| C937 | 9 | J |
| C938 | 10 | H |
| C941 | 10 | J |
| C942 | 10 | G |
| C943 | 10 | J |
| C944 | 10 | J |
| C945 | 9 | I |
| C946 | 10 | H |
| C951 | 6 | G |
| C952 | 6 | H |
| C971 | 1 | B |
| C972 | 1 | B |
| C973 | 1 | B |
| C974 | 1 | B |
| C981 | 1 | C |
| C982 | 1 | C |
| C983 | 1 | D |
| C984 | 1 | D |
| C985 | 1 | C |
| C986 | 1 | C |
| C987 | 1 | D |
| CN313 | 4 | G |
| CN521 | 8 | C |
| CN701 | 9 | D |
| CN702 | 9 | B |
| CN703 | 9 | H |

| | | |
|---|---|---|
| D804 | 9 | J |
| D805 | 8 | H |
| D806 | 8 | H |
| D807 | 8 | I |
| D808 | 8 | H |
| D811 | 7 | I |
| D812 | 7 | I |
| D813 | 8 | F |
| D814 | 8 | F |
| D840 | 7 | E |
| D841 | 7 | E |
| D842 | 7 | E |
| D885 | 7 | J |
| D891 | 8 | D |
| D892 | 8 | D |
| D901 | 6 | C |
| D902 | 3 | C |
| D921 | 4 | E |
| D925 | 4 | E |
| D951 | 2 | E |
| D952 | 3 | E |
| F001 | 3 | I |
| F002 | 2 | I |
| F003 | 2 | I |
| F101 | 4 | J |
| F811 | 7 | I |
| F812 | 6 | H |
| FW801A | 6 | J |
| FW801B | 8 | J |
| FW901A | 10 | I |
| FW901B | 9 | F |
| IC501 | 7 | C |
| IC901 | 4 | E |
| J001 | 1 | H |
| J661 | 5 | H |
| J951 | 6 | G |
| L051 | 2 | C |
| L581 | 7 | C |

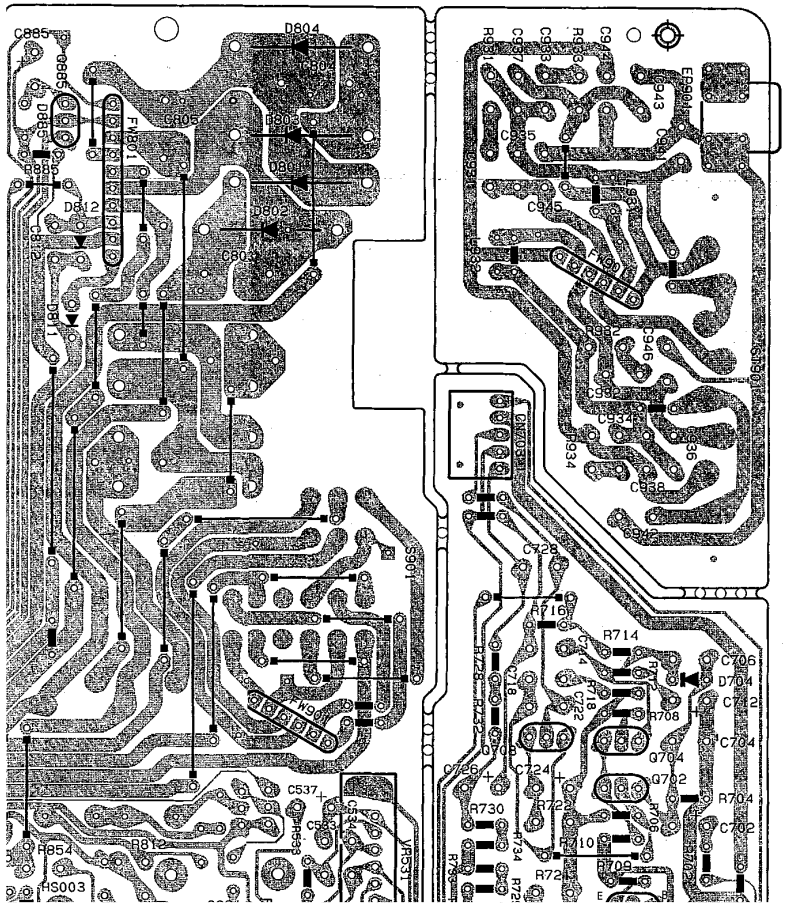
| | | |
|---|---|---|
| Q742 | 3 | A |
| Q751 | 5 | C |
| Q752 | 4 | C |
| Q753 | 6 | C |
| Q754 | 3 | C |
| Q755 | 5 | B |
| Q756 | 4 | B |
| Q757 | 6 | B |
| Q758 | 3 | B |
| Q761 | 5 | A |
| Q762 | 4 | A |
| Q763 | 6 | A |
| Q764 | 3 | A |
| Q781 | 5 | C |
| Q782 | 4 | C |
| Q783 | 6 | C |
| Q784 | 3 | C |
| Q801 | 8 | F |
| Q802 | 8 | F |
| Q841 | 7 | E |
| Q885 | 7 | J |
| Q891 | 8 | E |
| Q901 | 6 | C |
| Q902 | 3 | C |
| Q903 | 3 | E |
| Q951 | 2 | E |
| R001 | 1 | F |
| R011 | 3 | F |
| R012 | 2 | F |
| R013 | 3 | F |
| R014 | 2 | F |
| R015 | 3 | F |
| R035 | 3 | F |
| R051 | 3 | D |
| R052 | 3 | D |
| R053 | 2 | D |
| R054 | 2 | D |
| R055 | 2 | D |

| | | |
|---|---|---|
| R551 | 10 | A |
| R552 | 10 | A |
| R553 | 10 | A |
| R554 | 10 | B |
| R555 | 10 | B |
| R556 | 10 | A |
| R557 | 10 | B |
| R558 | 10 | B |
| R560 | 10 | B |
| R561 | 10 | C |
| R562 | 8 | B |
| R563 | 10 | C |
| R564 | 10 | C |
| R565 | 10 | C |
| R566 | 10 | C |
| R567 | 8 | B |
| R568 | 7 | A |
| R569 | 10 | C |
| R570 | 10 | C |
| R571 | 7 | B |
| R572 | 8 | B |
| R575 | 7 | B |
| R576 | 8 | B |
| R577 | 7 | B |
| R578 | 8 | B |
| R581 | 7 | C |
| R582 | 7 | C |
| R585 | 7 | B |
| R586 | 7 | B |
| R587 | 7 | B |
| R588 | 7 | B |
| R591 | 8 | B |
| R592 | 8 | B |
| R593 | 8 | B |
| R594 | 7 | C |
| R661 | 5 | G |
| R662 | 4 | G |
| R663 | 5 | H |

| | | |
|---|---|---|
| R744 | 3 | B |
| R745 | 6 | A |
| R746 | 3 | A |
| R747 | 6 | A |
| R748 | 3 | A |
| R749 | 6 | A |
| R750 | 3 | A |
| R751 | 5 | C |
| R752 | 4 | C |
| R753 | 6 | C |
| R754 | 3 | B |
| R755 | 5 | B |
| R756 | 4 | B |
| R757 | 6 | B |
| R758 | 3 | B |
| R759 | 6 | C |
| R760 | 3 | C |
| R765 | 5 | B |
| R766 | 3 | B |
| R767 | 5 | B |
| R768 | 4 | B |
| R769 | 6 | B |
| R770 | 3 | B |
| R771 | 6 | B |
| R772 | 4 | B |
| R773 | 5 | C |
| R774 | 4 | C |
| R775 | 6 | C |
| R776 | 4 | C |
| R781 | 5 | B |
| R782 | 4 | B |
| R783 | 6 | B |
| R784 | 4 | B |
| R785 | 5 | B |
| R786 | 4 | B |
| R787 | 6 | B |
| R788 | 4 | B |
| R801 | 5 | D |

| | | |
|---|---|---|
| R929 | 4 | E |
| R930 | 4 | E |
| R931 | 9 | J |
| R932 | 10 | H |
| R933 | 10 | J |
| R934 | 10 | H |
| R951 | 2 | E |
| R955 | 1 | E |
| R956 | 1 | E |
| R961 | 4 | F |
| R962 | 4 | F |
| R975 | 1 | B |
| R986 | 1 | C |
| R987 | 1 | D |
| R997 | 5 | I |
| R998 | 6 | I |
| R999 | 5 | J |
| RY001 | 2 | J |
| RY801 | 8 | F |
| RY802 | 7 | F |
| RY901 | 4 | E |
| RY951 | 2 | E |
| S001 | 2 | I |
| S901A | 9 | G |
| S901B | 9 | G |
| ST901 | 10 | I |
| ST951 | 1 | C |
| T002 | 1 | G |
| TA001 | 2 | I |
| TA002 | 2 | H |
| TP001 | 5 | C |

**RX-660VBK**
**RX-618VBK**



Location List(ENH288)

| Symbol | X | Y |
|---|---|---|
| C001 | 1 | F |
| C002 | 2 | F |
| C011 | 3 | I |
| C023 | 4 | F |
| C051 | 3 | D |
| C052 | 3 | E |
| C053 | 2 | D |
| C057 | 2 | D |
| C058 | 2 | D |
| C061 | 2 | D |
| C062 | 2 | C |
| C063 | 3 | C |
| C064 | 2 | C |
| C067 | 2 | D |
| C071 | 2 | B |
| C072 | 2 | B |
| C073 | 2 | B |
| C074 | 2 | B |
| C093 | 2 | D |
| C094 | 2 | D |
| C511 | 7 | D |
| C521 | 9 | D |
| C522 | 9 | D |
| C523 | 8 | C |
| C524 | 8 | C |
| C531 | 8 | E |
| C532 | 9 | D |
| C533 | 9 | E |
| C534 | 9 | E |
| C535 | 9 | D |
| C536 | 9 | E |
| C537 | 9 | F |
| C538 | 8 | E |
| C551 | 10 | B |
| C552 | 10 | B |
| C553 | 10 | B |
| C556 | 10 | A |
| C557 | 10 | B |
| C558 | 10 | B |
| C561 | 10 | B |

| Symbol | X | Y |
|---|---|---|
| C728 | 10 | G |
| C739 | 10 | D |
| C740 | 10 | D |
| C751 | 5 | C |
| C752 | 4 | B |
| C753 | 6 | C |
| C754 | 3 | B |
| C767 | 5 | B |
| C768 | 4 | B |
| C769 | 6 | B |
| C770 | 3 | B |
| C771 | 6 | C |
| C772 | 4 | C |
| C773 | 6 | C |
| C774 | 3 | C |
| C801 | 6 | E |
| C802 | 5 | E |
| C803 | 8 | I |
| C803B | 8 | I |
| C804 | 8 | J |
| C804B | 9 | J |
| C805 | 8 | J |
| C805B | 8 | J |
| C806 | 8 | J |
| C807 | 8 | H |
| C808 | 8 | H |
| C809 | 7 | J |
| C810 | 7 | I |
| C811 | 6 | F |
| C812 | 7 | I |
| C813 | 6 | I |
| C840 | 6 | E |
| C841 | 6 | E |
| C854 | 7 | D |
| C885 | 7 | J |
| C896 | 8 | D |
| C903 | 2 | E |
| C904 | 3 | D |
| C905 | 3 | E |
| C906 | 3 | E |

| Symbol | X | Y |
|---|---|---|
| CN711 | 6 | D |
| CN712 | 7 | D |
| CN713 | 3 | D |
| CN801 | 5 | F |
| CN851 | 8 | D |
| CN891 | 9 | B |
| CN941 | 1 | D |
| CN951 | 6 | H |
| CN961 | 4 | F |
| C04 | 1 | D |
| D005 | 3 | G |
| D007 | 3 | G |
| D008 | 3 | J |
| D021 | 1 | F |
| D022 | 1 | F |
| D023 | 1 | F |
| D024 | 1 | F |
| D053 | 2 | D |
| D061 | 2 | B |
| D062 | 2 | C |
| D065 | 2 | B |
| D081 | 2 | D |
| D553 | 10 | B |
| D563 | 8 | B |
| D585 | 7 | B |
| D586 | 8 | B |
| D591 | 8 | B |
| D703 | 10 | D |
| D704 | 10 | F |
| D781 | 5 | C |
| D782 | 4 | B |
| D783 | 6 | B |
| D784 | 3 | B |
| D801 | 9 | I |
| D802 | 9 | I |
| D803 | 9 | J |
| D804 | 9 | J |
| D805 | 8 | H |
| D806 | 8 | H |

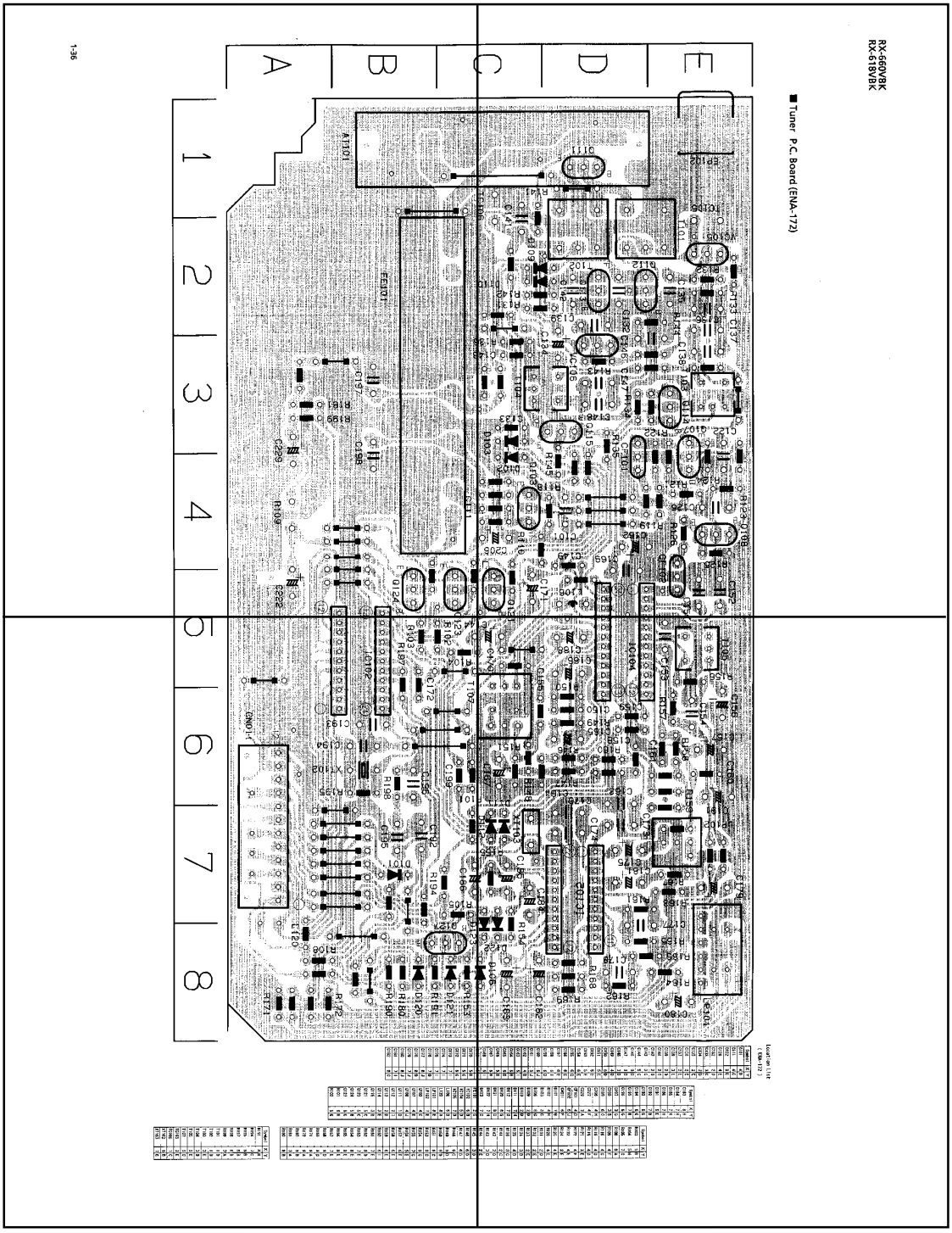
| Symbol | X | Y |
|---|---|---|
| L771 | 5 | C |
| L772 | 4 | C |
| L931 | 10 | I |
| L932 | 9 | I |
| L971 | 1 | C |
| L981 | 1 | D |
| Q001 | 3 | F |
| Q002 | 3 | F |
| Q003 | 2 | F |
| Q051 | 2 | D |
| Q052 | 2 | D |
| Q053 | 2 | D |
| Q055 | 2 | B |
| Q056 | 2 | B |
| Q057 | 2 | A |
| Q058 | 1 | A |
| Q059 | 2 | D |
| Q061 | 2 | B |
| Q062 | 2 | C |
| Q551 | 10 | A |
| Q552 | 10 | B |
| Q561 | 10 | B |
| Q573 | 7 | B |
| Q574 | 8 | B |
| Q575 | 7 | A |
| Q576 | 8 | A |
| Q585 | 7 | B |
| Q586 | 8 | B |
| Q591 | 8 | B |
| Q701 | 10 | E |
| Q702 | 10 | F |
| Q703 | 10 | E |
| Q704 | 10 | F |
| Q707 | 10 | E |
| Q708 | 10 | F |
| Q741 | 6 | A |
| Q742 | 3 | A |
| Q751 | 5 | C |
| Q752 | 4 | C |
| Q753 | 6 | C |

| Symbol | X | Y |
|---|---|---|
| R057 | 2 | D |
| R058 | 2 | D |
| R061 | 2 | C |
| R062 | 2 | C |
| R063 | 2 | C |
| R064 | 2 | C |
| R065 | 2 | C |
| R067 | 2 | D |
| R068 | 2 | C |
| R072 | 2 | B |
| R073 | 3 | B |
| R074 | 2 | B |
| R077 | 2 | B |
| R078 | 1 | C |
| R081 | 2 | B |
| R082 | 2 | D |
| R083 | 2 | D |
| R090 | 2 | A |
| R091 | 2 | C |
| R092 | 2 | B |
| R093 | 2 | B |
| R094 | 2 | B |
| R095 | 2 | B |
| R096 | 2 | C |
| R097 | 2 | D |
| R098 | 2 | D |
| R511 | 7 | C |
| R512 | 7 | D |
| R523 | 9 | D |
| R524 | 9 | D |
| R525 | 9 | C |
| R526 | 9 | C |
| R533 | 8 | E |
| R534 | 8 | E |
| R535 | 9 | D |
| R536 | 9 | E |
| R551 | 10 | A |
| R552 | 10 | A |
| R553 | 10 | A |

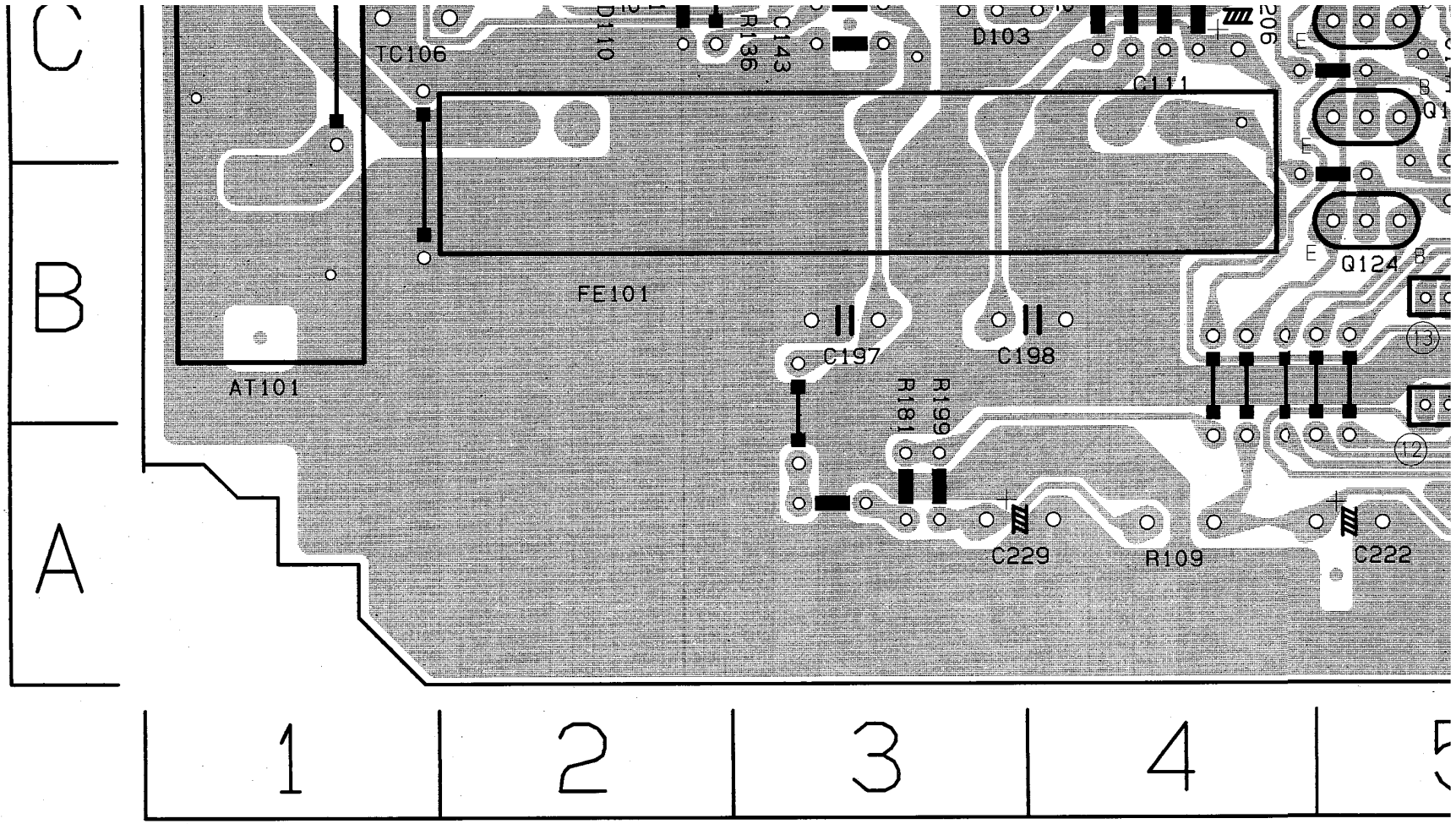
| Symbol | X | Y |
|---|---|---|
| R664 | 4 | G |
| R665 | 5 | G |
| R666 | 4 | G |
| R667 | 5 | G |
| R668 | 4 | G |
| R701 | 10 | E |
| R702 | 10 | E |
| R703 | 10 | E |
| R704 | 10 | F |
| R705 | 10 | E |
| R706 | 10 | F |
| R707 | 10 | E |
| R708 | 10 | F |
| R709 | 10 | E |
| R710 | 10 | E |
| R711 | 10 | D |
| R712 | 10 | F |
| R713 | 10 | D |
| R714 | 10 | G |
| R715 | 10 | C |
| R716 | 10 | G |
| R717 | 10 | D |
| R718 | 10 | F |
| R721 | 10 | E |
| R722 | 10 | F |
| R727 | 9 | E |
| R728 | 9 | F |
| R729 | 9 | E |
| R730 | 9 | F |
| R731 | 9 | E |
| R732 | 9 | F |
| R733 | 9 | E |
| R734 | 9 | E |
| R739 | 10 | C |
| R740 | 10 | C |
| R743 | 6 | B |
| R744 | 3 | B |
| R745 | 6 | A |
| R746 | 3 | A |

| Symbol | X | Y |
|---|---|---|
| R802 | 5 | D |
| R808 | 6 | J |
| R812 | 8 | E |
| R820 | 8 | E |
| R840 | 6 | F |
| R841 | 7 | E |
| R841B | 7 | F |
| R842 | 7 | E |
| R845 | 7 | D |
| R853 | 8 | E |
| R854 | 7 | E |
| R881 | 7 | E |
| R885 | 7 | J |
| R891 | 8 | E |
| R892 | 8 | E |
| R901 | 5 | B |
| R902 | 4 | B |
| R903 | 6 | C |
| R904 | 3 | C |
| R905 | 6 | C |
| R906 | 3 | C |
| R909 | 5 | C |
| R910 | 4 | C |
| R911 | 2 | E |
| R912 | 3 | D |
| R913 | 2 | E |
| R915 | 3 | E |
| R916 | 4 | D |
| R917 | 3 | E |
| R918 | 4 | D |
| R919 | 3 | E |
| R920 | 3 | E |
| R921 | 4 | E |
| R925 | 4 | E |
| R926 | 4 | E |
| R927 | 4 | D |
| R929 | 4 | E |
| R930 | 4 | E |
| R931 | 9 | J |

P1-36-a P1-36-b




P1-36-c P1-36-d

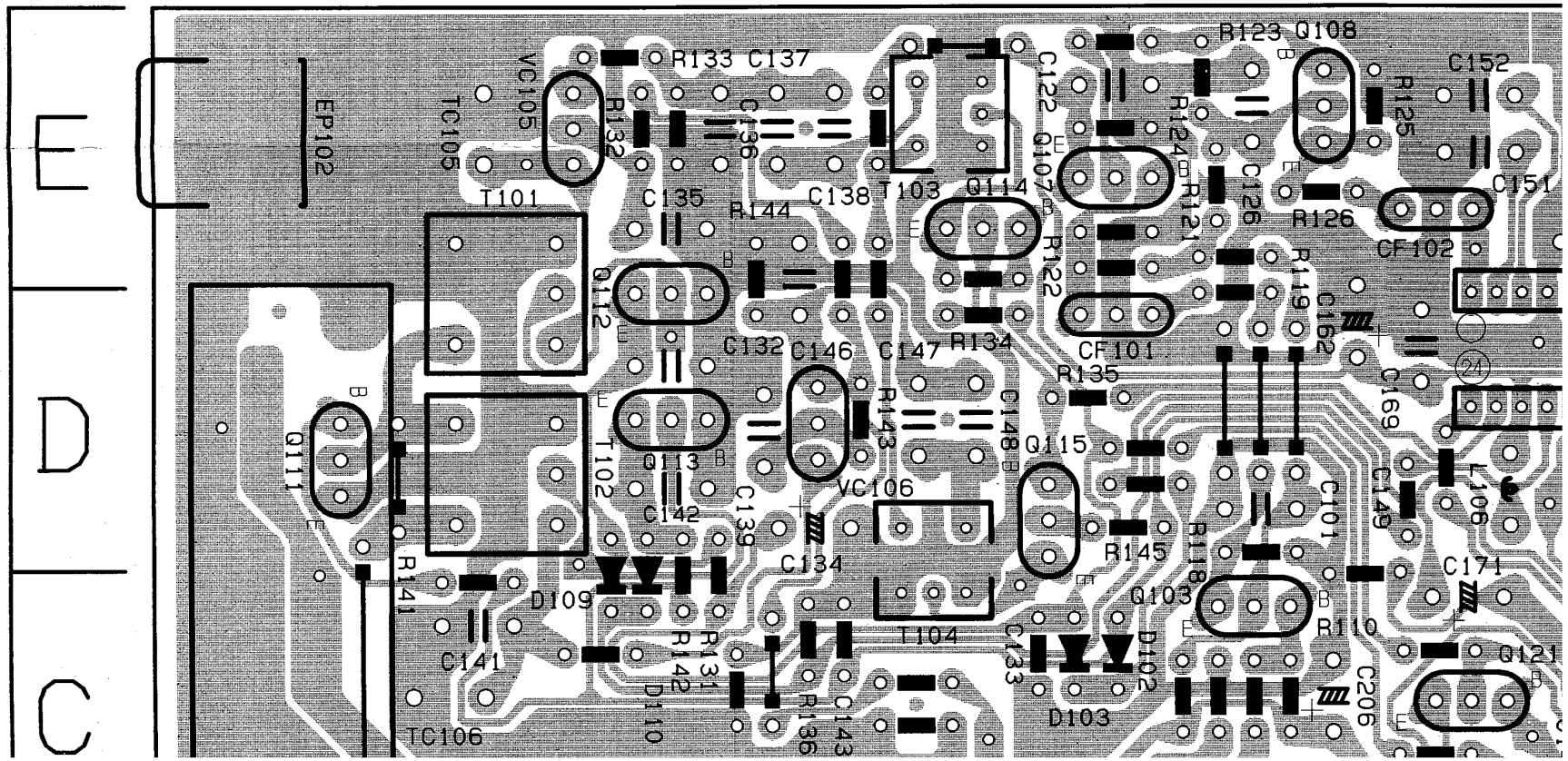

C
B
A
1
2
3
4
TC106
D103
C111
Q124
FE101
AT101
C197
C198
R181
R199
C229
R109
C222

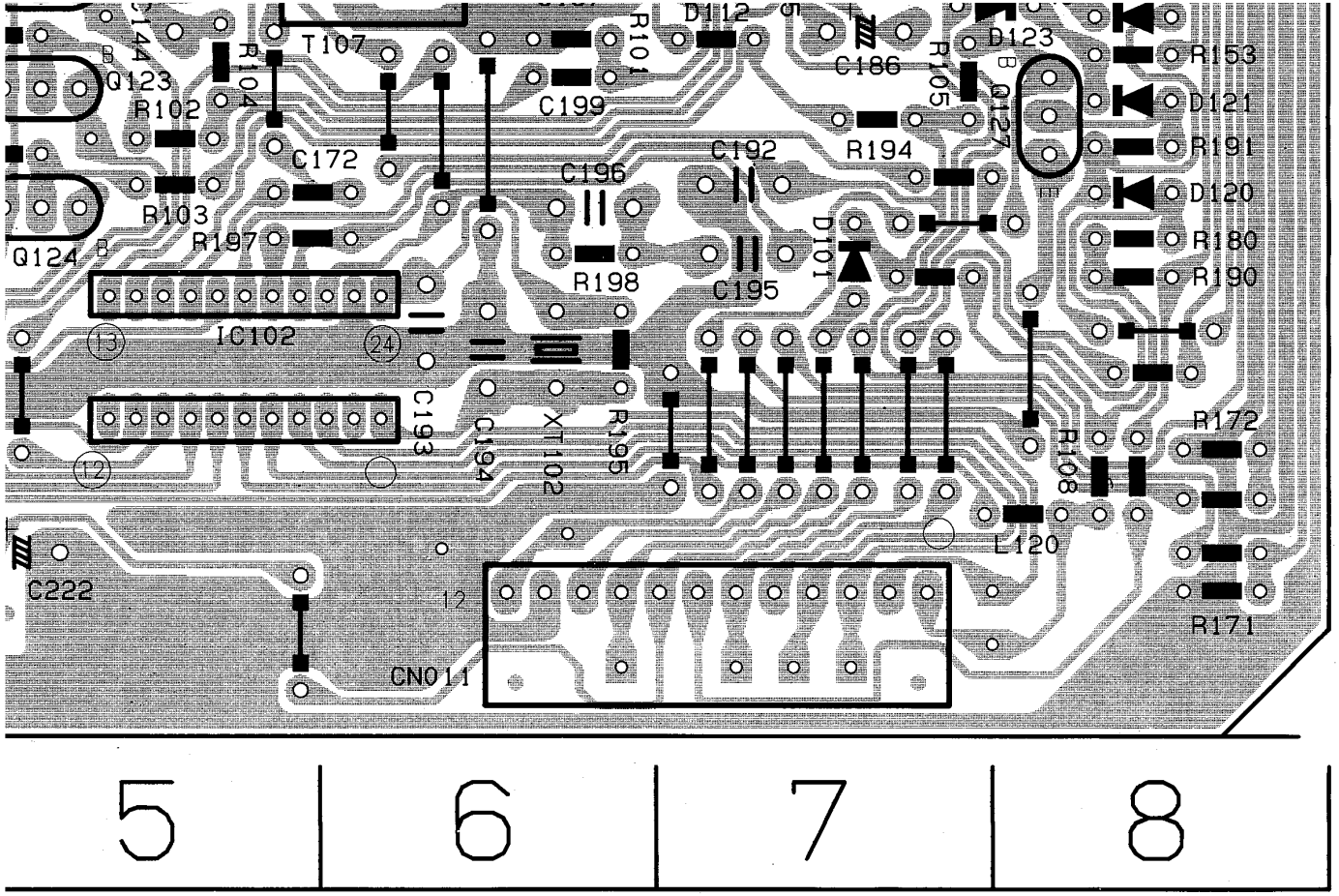


P1-36-a

**RX-660VBK**
**RX-618VBK**

## ■ Tuner P.C. Board (ENA-172)



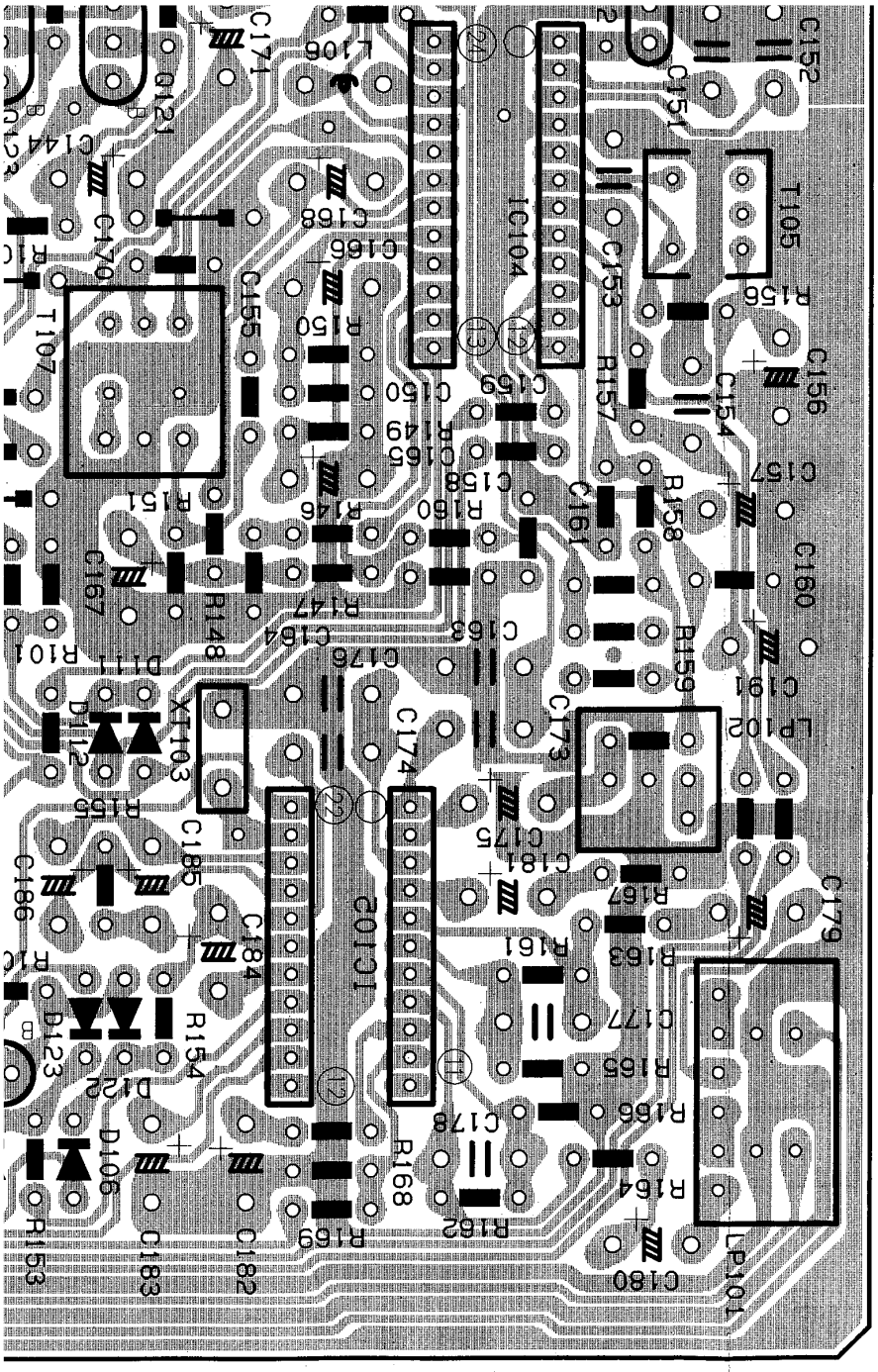



| | | |
|---|---|---|
| C168 | 5 | I |
| C169 | 5 | I |
| C170 | 5 | H |
| C171 | 5 | C |
| C172 | 6 | G |
| C173 | 7 | I |
| C174 | 7 | I |
| C175 | 7 | I |
| C176 | 7 | D |
| C177 | 8 | J |
| C178 | 8 | D |
| C179 | 7 | J |
| C180 | 8 | J |
| C181 | 7 | I |
| C182 | 8 | C |

| | | |
|---|---|---|
| D123 | 7 | C |
| FE101 | 2 | C |
| IC102 | 6 | B |
| IC104 | 5 | D |
| IC105 | 7 | D |
| L106 | 5 | D |
| L120 | 8 | A |
| LP101 | 8 | E |
| LP102 | 7 | E |
| Q103 | 4 | C |
| Q107 | 4 | E |
| Q108 | 4 | J |
| Q111 | 1 | D |
| Q112 | 2 | I |
| Q113 | 2 | D |
| Q114 | 3 | E |
| Q115 | 3 | D |
| Q121 | 5 | C |
| Q123 | 5 | C |
| Q124 | 5 | B |
| Q127 | 8 | C |
| R101 | 6 | H |
| R102 | 5 | G |

| | | |
|---|---|---|
| R144 | 2 | E |
| R145 | 3 | D |
| R146 | 6 | D |
| R147 | 6 | D |
| R148 | 6 | C |
| R149 | 6 | D |
| R150 | 6 | D |
| R151 | 6 | C |
| R153 | 8 | C |
| R154 | 8 | C |
| R155 | 7 | C |
| R156 | 5 | E |
| R157 | 6 | E |
| R158 | 6 | E |
| R159 | 6 | E |
| R160 | 6 | I |
| R161 | 7 | E |
| R162 | 8 | D |
| R163 | 7 | E |
| R164 | 8 | E |
| R165 | 8 | E |
| R166 | 8 | E |
| R167 | 7 | E |
| R168 | 8 | D |
| R169 | 8 | D |
| R171 | 8 | A |
| R172 | 8 | A |
| R180 | 8 | B |
| R181 | 3 | A |
| R190 | 8 | B |

| Symbol | X | Y |
|---|---|---|
| R191 | 8 | B |
| R194 | 7 | C |
| R195 | 6 | B |
| R197 | 6 | B |
| R198 | 6 | B |
| R199 | 3 | A |
| T101 | 1 | D |
| T102 | 1 | D |
| T103 | 3 | E |
| T104 | 3 | D |
| T105 | 5 | E |
| T107 | 5 | C |
| TC105 | 2 | E |
| TC106 | 1 | C |
| XT102 | 6 | B |
| XT103 | 7 | C |



Location List
( ENA-172 )

| Symbol | X | Y |
|---|---|---|
| C101 | 4 | D |
| C111 | 4 | C |
| C122 | 3 | E |
| C126 | 4 | E |
| C132 | 2 | D |
| C133 | 3 | C |
| C134 | 2 | D |
| C135 | 2 | E |
| C136 | 2 | E |
| C137 | 2 | E |
| C138 | 3 | E |
| C139 | 2 | D |
| C141 | 2 | C |
| C142 | 2 | D |
| C143 | 3 | C |
| C144 | 5 | C |
| C146 | 3 | D |
| C147 | 3 | D |
| C148 | 3 | D |
| C149 | 4 | D |
| C150 | 6 | D |
| C151 | 5 | E |
| C152 | 5 | E |
| C153 | 5 | E |
| C154 | 6 | E |
| C155 | 6 | C |
| C156 | 6 | E |
| C157 | 6 | E |
| C158 | 6 | I |
| C159 | 6 | D |
| C160 | 6 | J |
| C161 | 6 | J |
| C162 | 4 | D |
| C163 | 6 | I |
| C164 | 6 | H |
| C165 | 6 | D |
| C166 | 5 | D |
| C167 | 6 | H |
| C168 | 5 | I |
| C169 | 5 | I |
| C170 | 5 | H |
| C171 | 5 | C |
| C179 | 6 | A |

| Symbol | X | Y |
|---|---|---|
| C183 | 8 | H |
| C184 | 7 | H |
| C185 | 7 | H |
| C186 | 7 | H |
| C191 | 6 | E |
| C192 | 7 | B |
| C193 | 6 | G |
| C194 | 6 | G |
| C195 | 7 | B |
| C196 | 6 | G |
| C197 | 3 | G |
| C198 | 3 | B |
| C199 | 6 | C |
| C206 | 4 | H |
| C222 | 4 | F |
| C229 | 3 | A |
| CF101 | 4 | D |
| CF102 | 5 | J |
| CN011 | 6 | F |
| D101 | 7 | B |
| D102 | 4 | H |
| D103 | 3 | C |
| D106 | 8 | C |
| D109 | 2 | D |
| D110 | 2 | D |
| D111 | 7 | H |
| D112 | 7 | C |
| D120 | 8 | G |
| D121 | 8 | C |
| D122 | 7 | H |
| D123 | 7 | C |
| FE101 | 2 | C |
| IC102 | 6 | B |
| IC104 | 5 | D |

| Symbol | X | Y |
|---|---|---|
| R103 | 5 | B |
| R104 | 5 | H |
| R105 | 7 | C |
| R108 | 8 | A |
| R109 | 4 | F |
| R110 | 4 | C |
| R118 | 4 | D |
| R119 | 4 | D |
| R121 | 3 | E |
| R122 | 4 | E |
| R123 | 4 | E |
| R124 | 3 | E |
| R125 | 4 | E |
| R126 | 4 | E |
| R131 | 2 | D |
| R132 | 2 | E |
| R133 | 2 | E |
| R134 | 3 | D |
| R135 | 4 | D |
| R136 | 3 | C |
| R141 | 2 | C |
| R142 | 2 | D |
| R143 | 3 | D |
| R144 | 2 | E |
| R145 | 3 | D |
| R146 | 6 | D |
| R147 | 6 | D |

# PARTS LIST

## RX-660VBK

**Note : All printed circuit borad assemblies are not available as service parts.**

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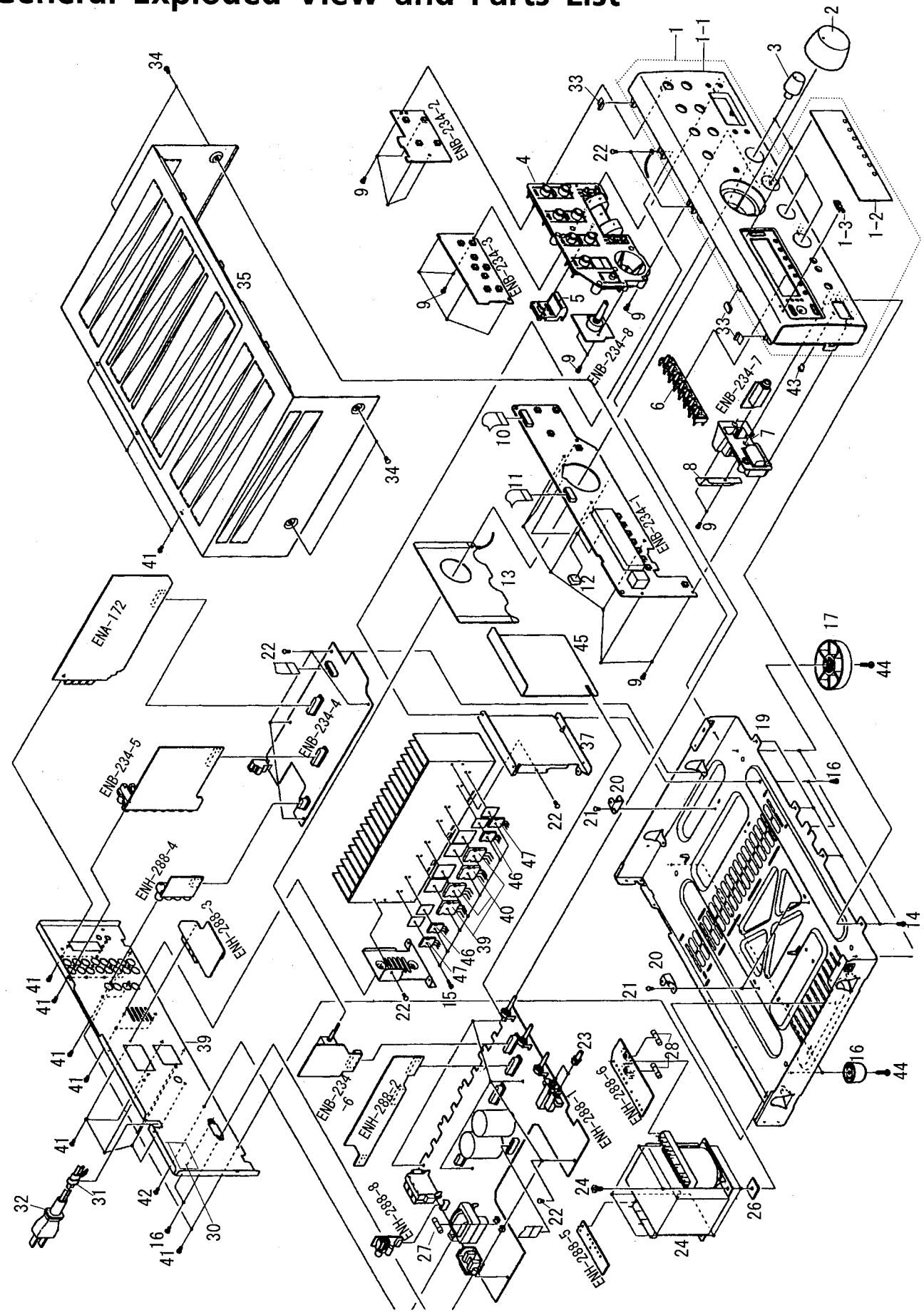
# General Exploded View and Parts List



## Parts List

| ⚠ | Item | Parts Number | Parts Name | Q'ty | Description | Area |
|---|---|---|---|---|---|---|
| | 1 | EFP-RX660VBKJ(S | FRONT PANEL ASS | 1 | | |
| | 1-1 | E103158-003SM | FRONT PANEL | 1 | | |
| | 1-2 | E309419-005SM | WINDOW SCREEN | 1 | | |
| | 1-3 | VJD5429-001 | JVC MARK | 1 | | |
| | 2 | E309465-001SM | VOLUME KNOB | 1 | | |
| | 3 | E309111-003SM | BALANCE KNOB | 4 | | |
| | 4 | E208859-002SM | PUSH BUTTON | 1 | SOURCE | |
| | 5 | E409170-001SM | PUSH BUTTON | 1 | | |
| | 6 | E309418-001SM | PUSH BUTTON | 1 | TUNER | |
| | 7 | E208860-001SM | POWER BUTTON | 1 | POWER | |
| | 8 | E409255-001 | PROTECT COVER | 1 | | |
| | 9 | SDSF2608Z | SCREW | 18 | | |
| | 10 | VWF1217-25TTB | FLAT WIRE ASSY | 1 | FW403 | |
| | 11 | VWF1213-25TTB | FLAT WIRE ASSY | 1 | FW801 | |
| | 12 | E306805-122 | SPACER | 3 | | |
| | 13 | E309955-001 | SHIELD PLATE | 1 | | |
| | 14 | SDSF3008M | WOOD SCREW | 4 | | |
| | 15 | E73525-003 | SCREW | 8 | | |
| | 16 | SDSG3008M | TAPPING SCREW | 4 | | |
| | 17 | VJF4039-00MSM | FOOT ASSY | 2 | | |
| | 18 | E47227-036 | FOOT | 2 | | |
| | 19 | E103157-001SM | CHASSIS BASE | 1 | | |
| | 20 | E68587-223SM | P.W.BOARD BRACKET | 3 | | |
| | 21 | SBST3006CC | TAPPING SCREW | 3 | | |
| | 22 | SBSG3008CC | TAPPING SCREW | 14 | | |
| | 23 | E407321-002SM | PUSH BUTTON | 2 | | |
| ⚠ | 24 | ETP1200-70JAJ | POWER TRANSFORMER | 1 | | |
| | 25 | E65389-006 | SPECIAL SCREW | 4 | | |
| | 26 | E406309-002 | SPACER | 4 | | |
| ⚠ | 27 | QMF0007-6R3J1 | FUSE | 1 | F001 | |
| ⚠ | 28 | QMF0007-2R0J1 | FUSE | 2 | F811/F812 | |
| | 29 | E208855-022SM | REAR PANEL | 1 | | |
| | 30 | E65507-001 | CAUTION LABEL | 1 | | C |
| | 30 | E67199-001 | CAUTION LABEL | 1 | | J |
| ⚠ | 31 | QHS3771-108 | CORD STOPPER | 1 | | |
| ⚠ | 32 | QMP1D00-200H | POWER CORD | 1 | | |
| | 33 | E306805-110 | SPACER | 3 | | |
| | 34 | E406308-001 | SPECIAL SCREW | 4 | | |
| | 35 | E208858-002 | METAL COVER | 1 | | |
| | 36 | E309840-002SM | HEAT SINK | 1 | | |
| | 37 | E208857-001SM | HEAT SINK BRACKET | 1 | | |
| | 38 | E309841-001SM | HEAT SINK BRACKET | 1 | | |
| | 39 | 2SB1429LB(R,O) | SI.TRANSISTOR | 2 | Q763/Q764 | |
| | 40 | 2SD2155LB(R,O) | SI.TRANSISTOR | 2 | Q761/Q762 | |
| | 41 | E73273-003 | SPECIAL SCREW | 24 | | |
| | 42 | SBST3006M | TAPPING SCREW | 1 | | |
| | 43 | FSJD4001-002SS | INDICATOR | 1 | | |
| | 44 | SBST3010Z | TAPPING SCREW | 4 | | |
| | 45 | E309957-001 | PROTECT COVER | 1 | | |
| | 46 | 2SC4278LD(D,E) | SI.TRANSISTOR | 1 | Q057/Q575 | |
| | 47 | 2SA1633LD(D,E) | SI.TRANSISTOR | 1 | Q058/Q576 | |
| | - | E408632-002 | RATING LABEL | 1 | | C |

## Electrcal Parts List(ENH-288)

| ⚠ | Item | Parts Number | Description | Area |
|---|---|---|---|---|
| | | I.C.S | | |
| | IC501 | LB1641 | I.C(DIGI-OTHER) | |
| | IC901 | TA7317P | I.C(MONO-ANALOG) | |
| | | DIODES | | |
| | D007 | MTZ6.2JC | ZENER DIODE | |
| | D008 | 1SS133 | SI.DIODE | |
| | D021 | 1SR139-200 | SI.DIODE | |
| | D022 | 1SR139-200 | SI.DIODE | |
| | D023 | 1SR139-200 | SI.DIODE | |
| | D024 | 1SR139-200 | SI.DIODE | |
| | D053 | 1SS133 | SI.DIODE | |
| | D061 | 1SS133 | SI.DIODE | |
| | D062 | 1SS133 | SI.DIODE | |
| | D065 | 1SS133 | SI.DIODE | |
| | D081 | 1SS133 | SI.DIODE | |
| | D553 | 1SS133 | SI.DIODE | |
| | D563 | 1SS133 | SI.DIODE | |
| | D585 | 1SS133 | SI.DIODE | |
| | D586 | 1SS133 | SI.DIODE | |
| | D591 | 1SS133 | SI.DIODE | |
| | D703 | 1SS133 | SI.DIODE | |
| | D704 | 1SS133 | SI.DIODE | |
| | D781 | 1SS133 | SI.DIODE | |
| | D782 | 1SS133 | SI.DIODE | |
| | D783 | 1SS133 | SI.DIODE | |
| | D784 | 1SS133 | SI.DIODE | |
| ⚠ | D801 | 30D2FC | GE.DIODE | |
| ⚠ | D802 | 30D2FC | GE.DIODE | |
| ⚠ | D803 | 30D2FC | GE.DIODE | |
| ⚠ | D804 | 30D2FC | GE.DIODE | |
| ⚠ | D805 | 30D2FC | GE.DIODE | |
| ⚠ | D806 | 30D2FC | GE.DIODE | |
| ⚠ | D807 | 30D2FC | GE.DIODE | |
| ⚠ | D808 | 30D2FC | GE.DIODE | |
| | D811 | 1SR139-200 | SI.DIODE | |
| | D812 | 1SR139-200 | SI.DIODE | |
| | D813 | 1SS133 | SI.DIODE | |
| | D814 | 1SS133 | SI.DIODE | |
| | D840 | MTZ10JC | ZENER DIODE | |
| | D841 | MTZ16JC | ZENER DIODE | |
| | D842 | 1SS133 | SI.DIODE | |
| | D885 | MTZ6.2JC | ZENER DIODE | |
| | D891 | MTZ6.8JC | ZENER DIODE | |
| | D892 | 1SS133 | SI.DIODE | |
| | D901 | 1SS133 | SI.DIODE | |
| | D902 | 1SS133 | SI.DIODE | |
| | D921 | 1SS133 | SI.DIODE | |
| | D925 | 1SS133 | SI.DIODE | |
| | D951 | 1SS133 | SI.DIODE | |
| | D952 | 1SS133 | SI.DIODE | |
| | | TRANSISTORS | | |
| | Q002 | 2SC2235(O,Y) | SI.TRANSISTOR | |
| | Q003 | DTC114ES | DIGITAL TRANSISTOR | |
| | Q051 | 2SC2240(BL) | SI.TRANSISTOR | |
| | Q052 | 2SC2240(BL) | SI.TRANSISTOR | |
| | Q053 | 2SA1038(R,S) | SI.TRANSISTOR | |
| | Q055 | 2SC2235(O,Y) | SI.TRANSISTOR | |
| | Q056 | 2SA965(Y) | SI.TRANSISTOR | |
| | Q059 | 2SC2389(S,E) | SI.TRANSISTOR | |
| | Q061 | 2SC2389(S,E) | SI.TRANSISTOR | |
| | Q062 | 2SA1038(R,S) | SI.TRANSISTOR | |
| | Q551 | 2SC2240(BL) | SI.TRANSISTOR | |
| | Q552 | 2SC2240(BL) | SI.TRANSISTOR | |
| | Q561 | 2SA1038(R,S) | SI.TRANSISTOR | |
| | Q573 | 2SC2235(O,Y) | SI.TRANSISTOR | |
| | Q574 | 2SA965(Y) | SI.TRANSISTOR | |
| | Q585 | 2SC2389(S,E) | SI.TRANSISTOR | |
| | Q586 | 2SA1038(R,S) | SI.TRANSISTOR | |
| | Q591 | 2SC2389(S,E) | SI.TRANSISTOR | |
| | Q701 | 2SC1775AV(F1) | SI.TRANSISTOR | |
| | Q702 | 2SC1775AV(F1) | SI.TRANSISTOR | |
| | Q703 | 2SC1775AV(F1) | SI.TRANSISTOR | |
| | Q704 | 2SC1775AV(F1) | SI.TRANSISTOR | |
| | Q707 | 2SA1038(R,S) | SI.TRANSISTOR | |
| | Q708 | 2SA1038(R,S) | SI.TRANSISTOR | |
| | Q741 | 2SD636 | SI.TRANSISTOR | |
| | Q742 | 2SD636 | SI.TRANSISTOR | |
| | Q751 | 2SC2389(S,E) | SI.TRANSISTOR | |

| ⚠ | Item | Parts Number | Description | Area |
|---|---|---|---|---|
| | Q752 | 2SC2389(S,E) | SI.TRANSISTOR | |
| | Q753 | 2SA1038(R,S) | SI.TRANSISTOR | |
| | Q754 | 2SA1038(R,S) | SI.TRANSISTOR | |
| | Q755 | 2SC2235(O,Y) | SI.TRANSISTOR | |
| | Q756 | 2SC2235(O,Y) | SI.TRANSISTOR | |
| | Q757 | 2SA965(Y) | SI.TRANSISTOR | |
| | Q758 | 2SA965(Y) | SI.TRANSISTOR | |
| | Q781 | 2SC2389(S,E) | SI.TRANSISTOR | |
| | Q782 | 2SC2389(S,E) | SI.TRANSISTOR | |
| | Q783 | 2SA1038(R,S) | SI.TRANSISTOR | |
| | Q784 | 2SA1038(R,S) | SI.TRANSISTOR | |
| | Q801 | DTC123YS | SI.TRANSISTOR | |
| | Q802 | DTC144ES | DIGITAL TRANSISTOR | |
| | Q841 | 2SB1187(F,G) | SI.TRANSISTOR | |
| | Q885 | 2SC2240(GR,BL) | SI.TRANSISTOR | |
| | Q891 | 2SD2061(F,G) | SI.TRANSISTOR | |
| | Q901 | 2SC2389(S,E) | SI.TRANSISTOR | |
| | Q902 | 2SC2389(S,E) | SI.TRANSISTOR | |
| | Q903 | 2SA1038(R,S) | SI.TRANSISTOR | |
| | Q951 | DTC123YS | SI.TRANSISTOR | |
| | | CAPACITORS | | |
| | C001 | QFN82AK-472 | 4700PF 100V METAL.MYLAR | |
| | C002 | QETB1EM-227 | 220MF 25V AL E.CAP. | |
| ⚠ | C011 | QCZ9019-472 | 4700PF C.CAP. | |
| | C023 | QETB1CM-476 | 47MF 16V AL E.CAP. | |
| | C051 | QETB1HM-106 | 10MF 50V E.CAP. | |
| | C052 | QCS21HJ-271A | 270PF 50V CER.CAP. | |
| | C053 | QCS21HJ-101A | 100PF 50V CER.CAP. | |
| | C057 | QCS21HJ-100 | 10PF 50V CER.CAP. | |
| | C058 | QETB1CM-476 | 47MF 16V AL E.CAP. | |
| | C061 | QETB1HM-225 | 2.2MF 50V AL E.CAP. | |
| | C062 | QFLB1HJ-103 | 0.01MF 50V MYLAR CAP. | |
| | C063 | QCS22HJ-330 | 33PF 500V CER.CAP. | |
| | C064 | QETB1HM-476 | 47MF 50V E.CAP. | |
| | C067 | QETB2AM-106 | 10MF 100V AL E.CAP. | |
| | C071 | QCS22HJ-470A | 47PF 500V CER.CAP. | |
| | C072 | QCS22HJ-470A | 47PF 500V CER.CAP. | |
| | C093 | QFLB1HJ-223 | 0.022MF 50V MYLAR CAP. | J |
| | C093 | QFLB1HJ-473 | 0.047MF 50V MYLAR CAP. | C |
| | C094 | QFLB1HJ-473 | 0.047MF 50V MYLAR CAP. | C |
| | C511 | QCHB1EZ-223 | 0.022MF 25V CER.CAP. | |
| | C521 | QFLB1HJ-332 | 3300PF 50V MYLAR CAP. | |
| | C522 | QFLB1HJ-332 | 3300PF 50V MYLAR CAP. | |
| | C523 | QFLB1HJ-183 | 0.018MF 50V MYLAR CAP. | |
| | C524 | QFLB1HJ-183 | 0.018MF 50V MYLAR CAP. | |
| | C531 | QETB1HM-105 | 1MF 50V AL E.CAP. | |
| | C532 | QETB1HM-105 | 1MF 50V AL E.CAP. | |
| | C533 | QFLB1HJ-153 | 0.015MF 50V MYLAR CAP. | |
| | C534 | QFLB1HJ-153 | 0.015MF 50V MYLAR CAP. | |
| | C535 | QFLB1HJ-823 | 0.082MF 50V MYLAR CAP. | |
| | C536 | QFLB1HJ-823 | 0.082MF 50V MYLAR CAP. | |
| | C537 | QETB1HM-105 | 1MF 50V AL E.CAP. | |
| | C538 | QETB1HM-105 | 1MF 50V AL E.CAP. | |
| | C551 | QETB1HM-106 | 10MF 50V E.CAP. | |
| | C552 | QCS21HJ-271A | 270PF 50V CER.CAP. | |
| | C553 | QCS21HJ-101A | 100PF 50V CER.CAP. | |
| | C556 | QCY31HK-152Z | 1500PF 50V CER.CAP. | |
| | C557 | QCS21HJ-100 | 10PF 50V CER.CAP. | |
| | C558 | QETB1CM-476 | 47MF 16V AL E.CAP. | |
| | C561 | QETB1HM-225 | 2.2MF 50V AL E.CAP. | |
| | C562 | QCS22HJ-330 | 33PF 500V CER.CAP. | |
| | C563 | QFLB1HJ-103 | 0.01MF 50V MYLAR CAP. | |
| | C564 | QETB1HM-476 | 47MF 50V E.CAP. | |
| | C571 | QCS22HJ-470A | 47PF 500V CER.CAP. | |
| | C572 | QCS22HJ-470A | 47PF 500V CER.CAP. | |
| | C581 | QFLB1HJ-223 | 0.022MF 50V MYLAR CAP. | J |
| | C581 | QFLB1HJ-473 | 0.047MF 50V MYLAR CAP. | C |
| | C582 | QFLB1HJ-473 | 0.047MF 50V MYLAR CAP. | C |
| | C599 | QETB1HM-476 | 47MF 50V E.CAP. | |
| | C671 | QETB0JM-108N | 1000MF 6.3V E.CAP. | |
| | C672 | QETB0JM-108N | 1000MF 6.3V E.CAP. | |
| | C673 | QETB1HM-475E | 4.7MF 50V E.CAP. | |
| | C674 | QETB1HM-475E | 4.7MF 50V E.CAP. | |
| | C701 | EETB1HM-106E | 10MF 50V E.CAP. | |
| | C702 | EETB1HM-106E | 10MF 50V E.CAP. | |
| | C703 | QCS21HJ-271A | 270PF 50V CER.CAP. | |
| | C704 | QCS21HJ-271A | 270PF 50V CER.CAP. | |
| | C705 | QCS21HJ-101A | 100PF 50V CER.CAP. | |

## Electrcal Parts List(ENH-288)

| ⚠ | Item | Parts Number | Description | Area |
|---|---|---|---|---|
| | C706 | QCS21HJ-101A | 100PF 50V CER. CAP. | |
| | C711 | QEHB1HM-476 | 47MF 50V AL E. CAP. | |
| | C712 | QEHB1HM-476 | 47MF 50V AL E. CAP. | |
| | C713 | QCS21HJ-100 | 10PF 50V CER. CAP. | |
| | C714 | QCS21HJ-100 | 10PF 50V CER. CAP. | |
| | C717 | QCY31HK-152Z | 1500PF 50V CER. CAP. | |
| | C718 | QCY31HK-152Z | 1500PF 50V CER. CAP. | |
| | C721 | QCS22HJ-220 | 22PF 500V CER. CAP. | |
| | C722 | QCS22HJ-220 | 22PF 500V CER. CAP. | |
| | C723 | EETB1HM-225E | 2.2MF 50V E. CAP. | |
| | C724 | EETB1HM-225E | 2.2MF 50V E. CAP. | |
| | C725 | QEHC1HM-226 | 22MF 50V E. CAP. | |
| | C726 | QEHC1HM-226 | 22MF 50V E. CAP. | |
| | C727 | QFLB1HJ-472 | 4700PF 50V MYLAR CAP. | |
| | C728 | QFLB1HJ-472 | 4700PF 50V MYLAR CAP. | |
| | C739 | QETB1JM-107 | 100MF 63V AL E. CAP. | |
| | C751 | QCS22HJ-470A | 47PF 500V CER. CAP. | |
| | C752 | QCS22HJ-470A | 47PF 500V CER. CAP. | |
| | C753 | QCS22HJ-470A | 47PF 500V CER. CAP. | |
| | C754 | QCS22HJ-470A | 47PF 500V CER. CAP. | |
| | C771 | QFLB1HJ-473 | 0.047MF 50V MYLAR CAP. | C |
| | C772 | QFLB1HJ-473 | 0.047MF 50V MYLAR CAP. | C |
| | C773 | QFLB1HJ-223 | 0.022MF 50V MYLAR CAP. | J |
| | C773 | QFLB1HJ-473 | 0.047MF 50V MYLAR CAP. | C |
| | C774 | QFLB1HJ-223 | 0.022MF 50V MYLAR CAP. | J |
| | C774 | QFLB1HJ-473 | 0.047MF 50V MYLAR CAP. | C |
| | C801 | QEZ0224-688 | 6800MF E. CAP. | |
| | C802 | QEZ0224-688 | 6800MF E. CAP. | |
| | C803 | QCE22HP-103A | 0.01MF 500V CER. CAP. | |
| | C804 | QCE22HP-103A | 0.01MF 500V CER. CAP. | |
| | C805 | QCE22HP-103A | 0.01MF 500V CER. CAP. | |
| | C806 | QCE22HP-103A | 0.01MF 500V CER. CAP. | |
| | C807 | QCE22HP-103A | 0.01MF 500V CER. CAP. | |
| | C810 | QFN81HJ-823 | 0.082MF 50V METAL. MYLAR | |
| | C811 | QETB1VM-228N | 2200MF 35V E. CAP. | |
| | C812 | QFN82AJ-104 | 0.1MF 100V MYLAR CAP. | |
| | C813 | QFN82AJ-104 | 0.1MF 100V MYLAR CAP. | |
| | C840 | QETB1HM-476 | 47MF 50V E. CAP. | |
| | C841 | QETB1HM-476 | 47MF 50V E. CAP. | |
| | C854 | QETB1EM-107 | 100MF 25V AL E. CAP. | |
| | C885 | QETB1HM-105 | 1MF 50V AL E. CAP. | |
| | C896 | QETB1EM-107 | 100MF 25V AL E. CAP. | |
| | C903 | QETB1HM-226E | 22MF 50V E. CAP. | |
| | C904 | QCY31HK-102Z | 1000PF 50V CER. CAP. | |
| | C905 | QETB1AM-476 | 47MF 10V E. CAP. | |
| | C906 | QCF21HP-103A | 0.01MF 50V CER. CAP. | |
| | C909 | QETB1CM-226 | 22MF 16V E. CAP. | |
| | C925 | QETB1HM-225 | 2.2MF 50V AL E. CAP. | |
| | C951 | QCS31HJ-331Z | 330PF 50V CER. CAP. | |
| | C952 | QCS31HJ-331Z | 330PF 50V CER. CAP. | |
| | | RESISTORS | | |
| ⚠ | R001 | QRC128K-275EM | 2.7M 1/2W COMPOSITION | |
| ⚠ | R011 | QRD14CJ-100SX | 10 1/4W UNF. CARBON R | |
| | R013 | QRD14CJ-821SX | 820 1/4W CARBON RES. | |
| ⚠ | R015 | QRD14CJ-100SX | 10 1/4W UNF. CARBON R | |
| | R051 | QRD161J-222 | 2.2K 1/6W CARBON RES. | |
| | R052 | QRD161J-104 | 100K 1/6W CARBON RES. | |
| | R053 | QRD161J-202 | 2K 1/6W CARBON RES. | |
| | R054 | QRD161J-202 | 2K 1/6W CARBON RES. | |
| | R055 | QRD161J-123 | 12K 1/6W CARBON RES. | |
| | R057 | QRD161J-104 | 100K 1/6W CARBON RES. | |
| | R058 | QRD161J-621 | 620 1/6W CARBON RES. | |
| | R058 | QRD167J-751 | 750 1/6W CARBON RES. | |
| ⚠ | R061 | QRD14CJ-181S | 180 1/4W UNF. CARBON R | |
| | R062 | QRD167J-332 | 3.3K 1/6W CARBON RES. | |
| | R063 | QRD167J-332 | 3.3K 1/6W CARBON RES. | |
| | R064 | QRD167J-332 | 3.3K 1/6W CARBON RES. | |
| | R065 | QRD167J-332 | 3.3K 1/6W CARBON RES. | |
| | R067 | QRD14CJ-331SX | 330 1/4W UNF. CARBON R | |
| | R068 | QRD14CJ-331SX | 330 1/4W UNF. CARBON R | |
| ⚠ | R072 | QRD14CJ-561SX | 560 1/4W UNF. CARBON R | |
| ⚠ | R073 | QRD145J-150S | 15 1/4W UNF. CARBON R | |
| ⚠ | R074 | QRD145J-150S | 15 1/4W UNF. CARBON R | |
| ⚠ | R077 | ERF032K-R22 | 0.22 3W CEM. RES. | |
| ⚠ | R078 | QRD125J-330 | 33 1/2W UNF. CARBON R | |
| | R081 | QRD161J-102 | 1K 1/6W CARBON RES. | |
| | R082 | QRD161J-183 | 18K 1/6W CARBON RES. | |
| | R083 | QRD161J-123 | 12K 1/6W CARBON RES. | |

| ⚠ | Item | Parts Number | Description | Area |
|---|---|---|---|---|
| | R090 | ERT-D2WHL202S | 2K 1/4W NEGATIVE THE | |
| | R091 | QRD161J-820 | 82 1/6W CARBON RES. | |
| | R092 | QRD161J-391 | 390 1/6W CARBON RES. | |
| | R093 | QRD161J-181 | 180 1/6W CARBON RES. | |
| | R094 | QRD161J-181 | 180 1/6W CARBON RES. | |
| | R095 | QRD161J-181 | 180 1/6W CARBON RES. | |
| | R096 | QRD161J-181 | 180 1/6W CARBON RES. | |
| ⚠ | R097 | QRG022J-100A | 10 2W OXIDE METAL | |
| | R098 | QRD161J-104 | 100K 1/6W CARBON RES. | |
| | R511 | QRD161J-102 | 1K 1/6W CARBON RES. | |
| | R512 | QRD161J-242 | 2.4K 1/6W CARBON RES. | |
| | R523 | QRD161J-472 | 4.7K 1/6W CARBON RES. | |
| | R524 | QRD161J-472 | 4.7K 1/6W CARBON RES. | |
| | R525 | QRD161J-122 | 1.2K 1/6W CARBON RES. | |
| | R526 | QRD161J-122 | 1.2K 1/6W CARBON RES. | |
| | R533 | QRD161J-203 | 20K 1/6W CARBON RES. | |
| | R534 | QRD161J-203 | 20K 1/6W CARBON RES. | |
| | R535 | QRD161J-362 | 3.6K 1/6W CARBON RES. | |
| | R536 | QRD161J-362 | 3.6K 1/6W CARBON RES. | |
| | R551 | QRD161J-222 | 2.2K 1/6W CARBON RES. | |
| | R552 | QRD161J-104 | 100K 1/6W CARBON RES. | |
| | R553 | QRD161J-202 | 2K 1/6W CARBON RES. | |
| | R554 | QRD161J-202 | 2K 1/6W CARBON RES. | |
| | R555 | QRD161J-103 | 10K 1/6W CARBON RES. | |
| | R556 | QRD161J-101 | 100 1/6W CARBON RES. | |
| | R557 | QRD161J-823 | 82K 1/6W CARBON RES. | |
| | R558 | QRD161J-621 | 620 1/6W CARBON RES. | |
| | R560 | QRD161J-133Y | 13K 1/6W CARBON RES. | |
| ⚠ | R561 | QRD14CJ-221S | 220 1/4W UNF. CARBON R | |
| | R562 | QRD161J-820 | 82 1/6W CARBON RES. | |
| | R563 | QRD167J-332 | 3.3K 1/6W CARBON RES. | |
| | R564 | QRD167J-332 | 3.3K 1/6W CARBON RES. | |
| | R565 | QRD167J-332 | 3.3K 1/6W CARBON RES. | |
| | R566 | QRD167J-332 | 3.3K 1/6W CARBON RES. | |
| | R567 | QRD161J-391 | 390 1/6W CARBON RES. | |
| | R568 | ERT-D2WHL202S | 2K 1/4W NEGATIVE THE | |
| ⚠ | R569 | QRD14CJ-100SX | 10 1/4W UNF. CARBON R | |
| ⚠ | R570 | QRD14CJ-100SX | 10 1/4W UNF. CARBON R | |
| ⚠ | R571 | QRD14CJ-100SX | 10 1/4W UNF. CARBON R | |
| ⚠ | R572 | QRD14CJ-100SX | 10 1/4W UNF. CARBON R | |
| ⚠ | R575 | QRD145J-150S | 15 1/4W UNF. CARBON R | |
| ⚠ | R576 | QRD145J-150S | 15 1/4W UNF. CARBON R | |
| ⚠ | R577 | ERF032K-R22 | 0.22 3W CEM. RES. | |
| ⚠ | R578 | QRD14CJ-561SX | 560 1/4W UNF. CARBON R | |
| ⚠ | R581 | QRD125J-330 | 33 1/2W UNF. CARBON R | |
| ⚠ | R582 | QRG022J-100A | 10 2W OXIDE METAL | |
| | R585 | QRD161J-181 | 180 1/6W CARBON RES. | |
| | R586 | QRD161J-181 | 180 1/6W CARBON RES. | |
| | R587 | QRD161J-181 | 180 1/6W CARBON RES. | |
| | R588 | QRD161J-181 | 180 1/6W CARBON RES. | |
| | R591 | QRD161J-102 | 1K 1/6W CARBON RES. | |
| | R592 | QRD161J-183 | 18K 1/6W CARBON RES. | |
| | R593 | QRD161J-123 | 12K 1/6W CARBON RES. | |
| | R594 | QRD161J-104 | 100K 1/6W CARBON RES. | |
| | R661 | QRD161J-750 | 75 1/6W CARBON RES. | |
| | R662 | QRD161J-750 | 75 1/6W CARBON RES. | |
| | R663 | QRD161J-750 | 75 1/6W CARBON RES. | |
| | R664 | QRD161J-750 | 75 1/6W CARBON RES. | |
| | R665 | QRD161J-473 | 47K 1/6W CARBON RES. | |
| | R666 | QRD161J-473 | 47K 1/6W CARBON RES. | |
| | R667 | QRD161J-331 | 330 1/6W CARBON RES. | |
| | R668 | QRD161J-331 | 330 1/6W CARBON RES. | |
| | R701 | QRD161J-222 | 2.2K 1/6W CARBON RES. | |
| | R702 | QRD161J-222 | 2.2K 1/6W CARBON RES. | |
| | R703 | QRD161J-104 | 100K 1/6W CARBON RES. | |
| | R704 | QRD161J-104 | 100K 1/6W CARBON RES. | |
| | R705 | QRD161J-202 | 2K 1/6W CARBON RES. | |
| | R706 | QRD161J-202 | 2K 1/6W CARBON RES. | |
| | R707 | QRD161J-202 | 2K 1/6W CARBON RES. | |
| | R708 | QRD161J-202 | 2K 1/6W CARBON RES. | |
| | R709 | QRD161J-133Y | 13K 1/6W CARBON RES. | |
| | R710 | QRD161J-133Y | 13K 1/6W CARBON RES. | |
| | R711 | QRD161J-621 | 620 1/6W CARBON RES. | |
| | R712 | QRD161J-621 | 620 1/6W CARBON RES. | |
| | R713 | QRD161J-133Y | 13K 1/6W CARBON RES. | |
| | R714 | QRD161J-133Y | 13K 1/6W CARBON RES. | |
| | R715 | QRD161J-823 | 82K 1/6W CARBON RES. | |
| | R716 | QRD161J-823 | 82K 1/6W CARBON RES. | |

## Electrcal Parts List(ENH-288)

| ⚠ | Item | Parts Number | Description | Area |
|---|---|---|---|---|
| | R717 | QRD161J-101 | 100 1/6W CARBON RES. | |
| | R718 | QRD161J-101 | 100 1/6W CARBON RES. | |
| ⚠ | R721 | QRD14CJ-151SX | 150 1/4W UNF. CARBON R | |
| ⚠ | R722 | QRD14CJ-151SX | 150 1/4W UNF. CARBON R | |
| | R727 | QRD167J-332 | 3.3K 1/6W CARBON RES. | |
| | R728 | QRD167J-332 | 3.3K 1/6W CARBON RES. | |
| | R729 | QRD167J-332 | 3.3K 1/6W CARBON RES. | |
| | R730 | QRD167J-332 | 3.3K 1/6W CARBON RES. | |
| | R731 | QRD167J-332 | 3.3K 1/6W CARBON RES. | |
| | R732 | QRD167J-332 | 3.3K 1/6W CARBON RES. | |
| | R733 | QRD167J-332 | 3.3K 1/6W CARBON RES. | |
| | R734 | QRD167J-332 | 3.3K 1/6W CARBON RES. | |
| ⚠ | R739 | QRD14CJ-100SX | 10 1/4W UNF. CARBON R | |
| ⚠ | R740 | QRD14CJ-100SX | 10 1/4W UNF. CARBON R | |
| | R743 | QRD167J-152 | 1.5K 1/6W CARBON RES. | |
| | R744 | QRD167J-152 | 1.5K 1/6W CARBON RES. | |
| | R745 | QRD161J-391 | 390 1/6W CARBON RES. | |
| | R746 | QRD161J-391 | 390 1/6W CARBON RES. | |
| | R747 | QRD161J-102 | 1K 1/6W CARBON RES. | |
| | R748 | QRD161J-102 | 1K 1/6W CARBON RES. | |
| | R749 | ERT-D2WHL202S | 2K 1/4W NEGATIVE THE | |
| | R750 | ERT-D2WHL202S | 2K 1/4W NEGATIVE THE | |
| ⚠ | R751 | QRD14CJ-100SX | 10 1/4W UNF. CARBON R | |
| ⚠ | R752 | QRD14CJ-100SX | 10 1/4W UNF. CARBON R | |
| ⚠ | R753 | QRD14CJ-100SX | 10 1/4W UNF. CARBON R | |
| ⚠ | R754 | QRD14CJ-100SX | 10 1/4W UNF. CARBON R | |
| ⚠ | R755 | QRD14CJ-100SX | 10 1/4W UNF. CARBON R | |
| ⚠ | R756 | QRD14CJ-100SX | 10 1/4W UNF. CARBON R | |
| ⚠ | R757 | QRD14CJ-100SX | 10 1/4W UNF. CARBON R | |
| ⚠ | R758 | QRD14CJ-100SX | 10 1/4W UNF. CARBON R | |
| ⚠ | R759 | QRD14CJ-272S | 2.7K 1/4W UNF. CARBON R | |
| ⚠ | R760 | QRD14CJ-272S | 2.7K 1/4W UNF. CARBON R | |
| ⚠ | R765 | QRD14CJ-271S | 270 1/4W UNF. CARBON R | |
| ⚠ | R766 | QRD14CJ-271S | 270 1/4W UNF. CARBON R | |
| ⚠ | R767 | QRD14CJ-100SX | 10 1/4W UNF. CARBON R | |
| ⚠ | R768 | QRD14CJ-100SX | 10 1/4W UNF. CARBON R | |
| ⚠ | R769 | QRD14CJ-100SX | 10 1/4W UNF. CARBON R | |
| ⚠ | R770 | QRD14CJ-100SX | 10 1/4W UNF. CARBON R | |
| ⚠ | R771 | ERF032K-R22 | 0.22 3W CEM. RES. | |
| ⚠ | R772 | ERF032K-R22 | 0.22 3W CEM. RES. | |
| ⚠ | R773 | QRD125J-330 | 33 1/2W UNF. CARBON R | |
| ⚠ | R774 | QRD125J-330 | 33 1/2W UNF. CARBON R | |
| ⚠ | R775 | QRG022J-100A | 10 2W OXIDE METAL | |
| ⚠ | R776 | QRG022J-100A | 10 2W OXIDE METAL | |
| | R781 | QRD161J-181 | 180 1/6W CARBON RES. | |
| | R782 | QRD161J-181 | 180 1/6W CARBON RES. | |
| | R783 | QRD161J-181 | 180 1/6W CARBON RES. | |
| | R784 | QRD161J-181 | 180 1/6W CARBON RES. | |
| | R785 | QRD167J-121 | 120 1/6W CARBON RES. | |
| | R786 | QRD167J-121 | 120 1/6W CARBON RES. | |
| | R787 | QRD167J-121 | 120 1/6W CARBON RES. | |
| | R788 | QRD167J-121 | 120 1/6W CARBON RES. | |
| | R801 | QRD161J-104 | 100K 1/6W CARBON RES. | |
| | R802 | QRD161J-104 | 100K 1/6W CARBON RES. | |
| ⚠ | R808 | QRD14CJ-3R3S | 3.3 1/4W UNF. CARBON R | |
| ⚠ | R812 | QRD14CJ-220S | 22 1/4W UNF. CARBON R | |
| | R820 | QRD167J-332 | 3.3K 1/6W CARBON RES. | |
| ⚠ | R840 | QRD14CJ-220S | 22 1/4W UNF. CARBON R | |
| ⚠ | R841 | QRG022J-331A | 330 2W OXIDE METAL | |
| | R842 | QRD14CJ-103SX | 10K 1/4W CARBON RES. | |
| | R845 | QRD14CJ-102SX | 1K 1/4W UNF. CARBON R | |
| ⚠ | R853 | QRX012J-2R2AF | 2.2 1W METAL FILM R | |
| ⚠ | R854 | QRD12CJ-822S | 8.2K 1/2W NETWORK RES. | |
| | R885 | QRD161J-104 | 100K 1/6W CARBON RES. | |
| ⚠ | R891 | QRD14CJ-100SX | 10 1/4W UNF. CARBON R | |
| ⚠ | R892 | QRD14CJ-272S | 2.7K 1/4W UNF. CARBON R | |
| | R901 | QRD161J-102 | 1K 1/6W CARBON RES. | |
| | R902 | QRD161J-102 | 1K 1/6W CARBON RES. | |
| | R903 | QRD167J-153 | 15K 1/6W CARBON RES. | |
| | R904 | QRD167J-153 | 15K 1/6W CARBON RES. | |
| | R905 | QRD161J-123 | 12K 1/6W CARBON RES. | |
| | R906 | QRD161J-123 | 12K 1/6W CARBON RES. | |
| | R909 | QRD161J-104 | 100K 1/6W CARBON RES. | |
| | R910 | QRD161J-823 | 82K 1/6W CARBON RES. | |
| | R911 | QRD167J-332 | 3.3K 1/6W CARBON RES. | |
| | R912 | QRD161J-473 | 47K 1/6W CARBON RES. | |
| | R913 | QRD161J-103 | 10K 1/6W CARBON RES. | |
| | R915 | QRD161J-823 | 82K 1/6W CARBON RES. | |

| ⚠ | Item | Parts Number | Description | Area |
|---|---|---|---|---|
| | R916 | QRD161J-563 | 56K 1/6W CARBON RES. | |
| | R917 | QRD161J-683 | 68K 1/6W CARBON RES. | |
| | R918 | QRD161J-392 | 3.9K 1/6W CARBON RES. | |
| | R919 | QRD161J-122 | 1.2K 1/6W CARBON RES. | |
| | R920 | QRD161J-224 | 220K 1/6W CARBON RES. | |
| ⚠ | R921 | QRD14CJ-470SX | 47 1/4W UNF. CARBON R | |
| | R925 | QRD167J-562 | 5.6K 1/6W CARBON RES. | |
| | R926 | QRD167J-822 | 8.2K 1/6W CARBON RES. | |
| | R927 | QRD161J-103 | 10K 1/6W CARBON RES. | |
| | R929 | QRD161J-333 | 33K 1/6W CARBON RES. | |
| | R930 | QRD161J-333 | 33K 1/6W CARBON RES. | |
| ⚠ | R951 | QRD14CJ-220S | 22 1/4W UNF. CARBON R | |
| | R955 | QRD161J-102 | 1K 1/6W CARBON RES. | |
| | R956 | QRD161J-333 | 33K 1/6W CARBON RES. | |
| ⚠ | R961 | QRG022J-471A | 470 2W OXIDE METAL | |
| ⚠ | R962 | QRG022J-471A | 470 2W OXIDE METAL | |
| | VR511 | QVDA96W-E15DJ3 | 100K VARIABLE RES. | |
| | VR521 | QVDB96C-E15CJ3 | 100K VARIABLE RES. | |
| | VR531 | QVDB96C-E15CJ3 | 100K VARIABLE RES. | |
| | VR741 | QVPA601-501A | 500 TRIMMER RES. | |
| | VR742 | QVPA601-501A | 500 TRIMMER RES. | |
| | | OTHERS | | |
| | | EMW10626-002 | CIR. BOARD | |
| | | QWE881-16RR | VINYL WIRE | |
| | | QWE886-16RR | PIN WIRE | |
| | | SBSG3008CC | TAPPING SCREW | |
| | J661 | EMN00YV-406AJ1 | PIN JACK | |
| | J951 | EMN00TV-118A | PIN JACK | |
| | L051 | EQL0011-R45J1 | INDUCTOR | |
| | L581 | EQL0011-R45J1 | INDUCTOR | |
| | L771 | EQL0011-R45J1 | INDUCTOR | |
| | L772 | EQL0011-R45J1 | INDUCTOR | |
| | S901 | QSP6002-E02J2 | PUSH SWITCH | |
| ⚠ | T002 | ETP1000-41JA | POWER TRASNFORMER | |
| | AC001 | QMCA001-E02S | AC OUTLET | |
| | CN313 | EMV5163-005R | CONNECTOR | |
| | CN521 | EMV7163-011 | CONNECT TERMINAL | |
| | CN701 | EMV5163-010R | CONNECT TERMINAL | |
| | CN702 | EMV5163-010R | CONNECT TERMINAL | |
| | CN703 | EMV5163-005R | CONNECTOR | |
| | CN711 | EMV7163-010 | CONNECT TERMINAL | |
| | CN712 | EMV7163-010 | CONNECT TERMINAL | |
| | CN713 | EMV7163-005 | CONNECTOR | |
| | CN801 | VMC0163-013 | CONNECT TERMINAL | |
| | CN852 | EMV7145-003Z | SOCKET ASSY | |
| | CN853 | EMV7145-003Z | SOCKET ASSY | |
| | CN891 | EMV7145-003Z | SOCKET ASSY | |
| | CN941 | VMC0177-003 | CONNECT TERMINAL | |
| | CN951 | VMC0178-003 | CONNECT TERMINAL | |
| | CN961 | EMV7145-003Z | SOCKET ASSY | |
| | EP491 | E409182-001SM | EARTH TERMINAL | |
| | EP501 | EMZ4002-001Z | EARTH PLATE | |
| | EP700 | EMZ4002-001Z | EARTH PLATE | |
| | FC101 | EMG7331-003Z | FUSE CLIP | |
| | FC102 | EMG7331-003Z | FUSE CLIP | |
| | FC810 | EMG7331-003Z | FUSE CLIP | |
| | FC811 | EMG7331-003Z | FUSE CLIP | |
| | FC812 | EMG7331-003Z | FUSE CLIP | |
| | FC813 | EMG7331-003Z | FUSE CLIP | |
| | FW801 | EWR3AD-13SS | FLAT WIRE ASSY | |
| | FW901 | EWR36D-40SS | CORD | |
| | HS003 | E70306-001 | HEAT SINK | |
| | LA101 | E61380-030 | FUSE LABEL | |
| | PW961 | EWT015-006 | TERMINAL WIRE | |
| | RY001 | ESK1D12-119J3 | RELAY | |
| | RY801 | ESK1D12-119J3 | RELAY | |
| | RY802 | ESK1D12-119J3 | RELAY | |
| | RY901 | ESK7D24-213R | RELAY | |
| | RY951 | ESK7D24-213R | RELAY | |
| | ST901 | FMMJ4002-001 | SPEAKER TERMINAL | |
| | ST951 | EMB90TV-601G | SPEAKER TERMINAL | |
| | TA001 | EMZ4001-001 | TAB | |
| | TA002 | EMZ4001-001 | TAB | |
| | TP001 | QMV5005-004K | PLUG ASSY | |

## Electrcal Parts List(ENB-234)

| ⚠ | Item | Parts Number | Description | Area |
|---|---|---|---|---|
| | | I.C.S | | |
| | IC301 | NJM4580DD | I.C(MONO-ANALOG) | |
| | IC321 | TC9164N | I.C(DIGI-MOS) | |
| | IC331 | UPD4066BC | I.C(DIGI-MOS) | |
| | IC341 | BA15218N | I.C(MONO-ANALOG) | |
| | IC361 | BA15218N | I.C(MONO-ANALOG) | |
| | IC401 | MN171202K8F | I.C(MICRO-COMPUTER) | |
| | IC402 | SPS-420-1 | INFRARED DETECT UNIT | |
| | IC403 | PST600E-T | I.C(MONO-ANALOG) | |
| | IC475 | NJM79L12A | I.C(MONO-ANALOG) | |
| | IC601 | LA2785 | I.C(MONO-ANALOG) | |
| | IC641 | LV1011 | I.C(MONO-ANALOG) | |
| | IC661 | NJM2246D | I.C(MONO-ANALOG) | |
| | | DIODES | | |
| | D331 | MTZ8.2JC | ZENER DIODE | |
| | D332 | MTZ8.2JC | ZENER DIODE | |
| | D401 | 1SS133 | SI.DIODE | |
| | D402 | 1SS133 | SI.DIODE | |
| | D403 | 1SS133 | SI.DIODE | |
| | D404 | 1SS133 | SI.DIODE | |
| | D411 | SLR-342DCTE7 | L.E.D. | |
| | D412 | SLR-342DCTE7 | L.E.D. | |
| | D413 | SLR-342DCTE7 | L.E.D. | |
| | D414 | SLR-56VCTB7 | L.E.D. | |
| | D421 | 1SS133 | SI.DIODE | |
| | D422 | 1SS133 | SI.DIODE | |
| | D423 | 1SS133 | SI.DIODE | |
| | D424 | 1SS133 | SI.DIODE | |
| | D425 | 1SS133 | SI.DIODE | |
| | D426 | 1SS133 | SI.DIODE | |
| | D451 | 1SS133 | SI.DIODE | |
| | D471 | MTZ9.1JC | ZENER DIODE | |
| | D474 | MTZ12JC | ZENER DIODE | |
| | D851 | MTZ16JC | ZENER DIODE | |
| | D852 | 1SS133 | SI.DIODE | |
| | | TRANSISTORS | | |
| | Q331 | DTA144ES | DIGITAL TRANSISTOR | |
| | Q332 | DTC144ES | DIGITAL TRANSISTOR | |
| | Q351 | 2SC2001(L,K) | SI.TRANSISTOR | |
| | Q352 | 2SC2001(L,K) | SI.TRANSISTOR | |
| | Q361 | 2SC2001(L,K) | SI.TRANSISTOR | |
| | Q362 | 2SC2001(L,K) | SI.TRANSISTOR | |
| | Q371 | DTA144ES | DIGITAL TRANSISTOR | |
| | Q401 | DTC114YS | DIGITAL TRANSISTOR | |
| | Q402 | DTC114YS | DIGITAL TRANSISTOR | |
| | Q403 | DTC114YS | DIGITAL TRANSISTOR | |
| | Q404 | DTC114YS | DIGITAL TRANSISTOR | |
| | Q405 | DTC114YS | DIGITAL TRANSISTOR | |
| | Q411 | DTC114YS | DIGITAL TRANSISTOR | |
| | Q412 | DTC114YS | DIGITAL TRANSISTOR | |
| | Q451 | DTC114TN | DIGITAL TRANSISTOR | |
| | Q452 | DTC144WS | DIGITAL TRANSISTOR | |
| | Q507 | 2SC2001(L,K) | SI.TRANSISTOR | |
| | Q508 | 2SC2001(L,K) | SI.TRANSISTOR | |
| | Q509 | DTA144ES | DIGITAL TRANSISTOR | |
| | Q661 | 2SC458(C,D) | SI.TRANSISTOR | |
| | Q662 | 2SC458(C,D) | SI.TRANSISTOR | |
| | Q663 | 2SA933S(RS) | SI.TRANSISTOR | |
| | Q664 | 2SA933S(RS) | SI.TRANSISTOR | |
| | Q681 | DTC143ES | DIGITAL TRANSISTOR | |
| | Q852 | 2SD2061(F,G) | SI.TRANSISTOR | |
| | | CAPACITORS | | |
| | C300 | QCHB1EZ-223 | 0.022MF 25V CER.CAP. | |
| | C301 | QETB1HM-475E | 4.7MF 50V E.CAP. | |
| | C302 | QETB1HM-475E | 4.7MF 50V E.CAP. | |
| | C303 | QCBB1HK-101Y | 100PF 50V CER.CAP. | |
| | C304 | QCBB1HK-101Y | 100PF 50V CER.CAP. | |
| | C305 | QFN81HK-182 | 1800PF 50V METAL.MYLAR | |
| | C306 | QFN81HK-182 | 1800PF 50V METAL.MYLAR | |
| | C307 | QFN31HK-682Z | 6800PF 50V MYLAR CAP. | |
| | C308 | QFN31HK-682Z | 6800PF 50V MYLAR CAP. | |
| | C309 | QCBB1HK-101Y | 100PF 50V CER.CAP. | |
| | C310 | QCBB1HK-101Y | 100PF 50V CER.CAP. | |
| | C311 | QETB1HM-475E | 4.7MF 50V E.CAP. | |
| | C312 | QETB1HM-475E | 4.7MF 50V E.CAP. | |
| | C313 | QETB1AM-107 | 100MF 10V AL E.CAP. | |
| | C314 | QETB1AM-107 | 100MF 10V AL E.CAP. | |
| | C315 | QETB1CM-476 | 47MF 16V AL E.CAP. | |

| ⚠ | Item | Parts Number | Description | Area |
|---|---|---|---|---|
| | C316 | QETB1CM-476 | 47MF 16V AL E.CAP. | |
| | C319 | QCBB1HK-331Y | 330PF 50V CER.CAP. | |
| | C320 | QCBB1HK-331Y | 330PF 50V CER.CAP. | |
| | C323 | QCHB1EZ-223 | 0.022MF 25V CER.CAP. | |
| | C324 | QCHB1EZ-223 | 0.022MF 25V CER.CAP. | |
| | C325 | QCBB1HK-221Y | 220PF 50V CER.CAP. | |
| | C331 | QETB1EM-226N | 22MF 25V E.CAP. | |
| | C332 | QETB1EM-226N | 22MF 25V E.CAP. | |
| | C339 | QETB1HM-475E | 4.7MF 50V E.CAP. | |
| | C341 | QETB1HM-106 | 10MF 50V E.CAP. | |
| | C342 | QETB1HM-106 | 10MF 50V E.CAP. | |
| | C351 | QETB1HM-225 | 2.2MF 50V AL E.CAP. | |
| | C352 | QETB1HM-225 | 2.2MF 50V AL E.CAP. | |
| | C363 | QETB1HM-225 | 2.2MF 50V AL E.CAP. | |
| | C364 | QETB1HM-225 | 2.2MF 50V AL E.CAP. | |
| | C375 | QETB1HM-475E | 4.7MF 50V E.CAP. | |
| | C381 | QCBB1HK-331Y | 330PF 50V CER.CAP. | |
| | C382 | QCBB1HK-331Y | 330PF 50V CER.CAP. | |
| | C385 | QCBB1HK-331Y | 330PF 50V CER.CAP. | |
| | C386 | QCBB1HK-331Y | 330PF 50V CER.CAP. | |
| | C387 | QCBB1HK-331Y | 330PF 50V CER.CAP. | |
| | C388 | QCBB1HK-331Y | 330PF 50V CER.CAP. | |
| | C389 | QCBB1HK-331Y | 330PF 50V CER.CAP. | |
| | C390 | QCBB1HK-331Y | 330PF 50V CER.CAP. | |
| | C393 | QCBB1HK-331Y | 330PF 50V CER.CAP. | |
| | C394 | QCBB1HK-331Y | 330PF 50V CER.CAP. | |
| | C395 | QCBB1HK-331Y | 330PF 50V CER.CAP. | |
| | C396 | QCBB1HK-331Y | 330PF 50V CER.CAP. | |
| | C397 | QCBB1HK-331Y | 330PF 50V CER.CAP. | |
| | C398 | QCBB1HK-331Y | 330PF 50V CER.CAP. | |
| | C401 | QETB1AM-227 | 220MF 10V E.CAP. | |
| | C402 | QCZ0202-155 | 1.5MF 25V CER.RES. | |
| | C403 | QCHB1EZ-223 | 0.022MF 25V CER.CAP. | |
| | C404 | QETB1HM-225 | 2.2MF 50V AL E.CAP. | |
| | C409 | QEAD0HZ-10AZM | AL E.CAP. | |
| | C410 | QETB1VM-227 | 220MF 35V AL E.CAP. | |
| | C451 | QCBB1HK-331Y | 330PF 50V CER.CAP. | |
| | C474 | QETB1EM-107 | 100MF 25V AL E.CAP. | |
| | C475 | QETB1EM-107 | 100MF 25V AL E.CAP. | |
| | C476 | QEK51HM-334G | 0.33MF 50V AL E.CAP. | |
| | C478 | QETB1HM-105 | 1MF 50V AL E.CAP. | |
| | C483 | QCVB1CM-103Y | 0.01MF 16V CER.CAP. | |
| | C491 | QCBB1HK-331Y | 330PF 50V CER.CAP. | |
| | C501 | QETB1HM-226E | 22MF 50V E.CAP. | |
| | C507 | QFN81HJ-333 | 0.033MF 50V MYLAR CAP. | |
| | C508 | QFN81HJ-333 | 0.033MF 50V MYLAR CAP. | |
| | C514 | QCF21HP-473A | 0.047MF 50V CER.CAP. | |
| | C601 | QETB1HM-105 | 1MF 50V AL E.CAP. | |
| | C602 | QETB1HM-105 | 1MF 50V AL E.CAP. | |
| | C603 | QFLB1HJ-104 | 0.1MF 50V MYLAR CAP. | |
| | C604 | QFLB1HJ-104 | 0.1MF 50V MYLAR CAP. | |
| | C605 | QFLB1HJ-104 | 0.1MF 50V MYLAR CAP. | |
| | C606 | QFLB1HJ-104 | 0.1MF 50V MYLAR CAP. | |
| | C607 | QETB1HM-474 | 0.47MF 50V E.CAP. | |
| | C608 | QETB1HM-474 | 0.47MF 50V E.CAP. | |
| | C609 | QETB1HM-475E | 4.7MF 50V E.CAP. | |
| | C610 | QETB1HM-475E | 4.7MF 50V E.CAP. | |
| | C611 | QETB1HM-474 | 0.47MF 50V E.CAP. | |
| | C612 | QETB1HM-474 | 0.47MF 50V E.CAP. | |
| | C613 | QETB1HM-475E | 4.7MF 50V E.CAP. | |
| | C614 | QETB1HM-475E | 4.7MF 50V E.CAP. | |
| | C615 | QFV81HJ-154 | 0.15MF 50V THIN FILM CA | |
| | C616 | QFV81HJ-154 | 0.15MF 50V THIN FILM CA | |
| | C617 | QETB1HM-335 | 3.3MF 50V AL E.CAP. | |
| | C618 | QETB1HM-335 | 3.3MF 50V AL E.CAP. | |
| | C619 | QFV81HJ-154 | 0.15MF 50V THIN FILM CA | |
| | C620 | QFV81HJ-154 | 0.15MF 50V THIN FILM CA | |
| | C621 | QFN81HJ-223 | 0.022MF 50V METAL.MYLAR | |
| | C622 | QFN81HJ-473 | 0.047MF 50V METAL.MYLAR | |
| | C623 | QETB1EM-227 | 220MF 25V AL E.CAP. | |
| | C624 | QETB1EM-106 | 10MF 25V AL E.CAP. | |
| | C625 | QETB1EM-106 | 10MF 25V AL E.CAP. | |
| | C626 | QETB1EM-106 | 10MF 25V AL E.CAP. | |
| | C627 | QETB1EM-106 | 10MF 25V AL E.CAP. | |
| | C628 | QETB1EM-227 | 220MF 25V AL E.CAP. | |
| | C631 | QETB1EM-476 | 47MF 25V AL E.CAP. | |
| | C632 | QFV71HJ-474ZM | 0.47MF 50V THIN FILM CA | |
| | C633 | QCS31HJ-681Z | 680PF 50V CER.CAP. | |

## Electrcal Parts List(ENB-234)

| ⚠ | Item | Parts Number | Description | Area |
|---|---|---|---|---|
| | C634 | QETB1EM-227 | 220MF 25V AL E.CAP. | |
| | C641 | QETB1EM-106 | 10MF 25V AL E.CAP. | |
| | C642 | QETB1EM-227 | 220MF 25V AL E.CAP. | |
| | C643 | QETB1HM-225 | 2.2MF 50V AL E.CAP. | |
| | C645 | QFN81HJ-333 | 0.033MF 50V MYLAR CAP. | |
| | C646 | QFN81HJ-152 | 1500PF 50V METAL.MYLAR | |
| | C647 | QFN81HJ-333 | 0.033MF 50V MYLAR CAP. | |
| | C648 | QETB1HM-105 | 1MF 50V AL E.CAP. | |
| | C650 | QETB1EM-227 | 220MF 25V AL E.CAP. | |
| | C651 | QCSB1HJ-330Y | 33PF 50V CER.CAP. | |
| | C652 | QCSB1HJ-330Y | 33PF 50V CER.CAP. | |
| | C653 | QCHB1EZ-223 | 0.022MF 25V CER.CAP. | |
| | C655 | QETB1HM-225 | 2.2MF 50V AL E.CAP. | |
| | C656 | QETB1HM-225 | 2.2MF 50V AL E.CAP. | |
| | C661 | QETB1CM-107 | 100MF 16V AL E.CAP. | |
| | C662 | QCHB1EZ-223 | 0.022MF 25V CER.CAP. | |
| | C663 | QCHB1EZ-223 | 0.022MF 25V CER.CAP. | |
| | C853 | QETB1EM-107 | 100MF 25V AL E.CAP. | |
| | C891 | QFV81HJ-103 | 0.01MF 50V THIN FILM CA | |
| | C892 | QFV81HJ-333 | 0.033MF 50V THIN FILM CA | |
| | C893 | QCBB1HK-101Y | 100PF 50V CER.CAP. | |
| | C894 | QCBB1HK-101Y | 100PF 50V CER.CAP. | |
| | C895 | QER51HM-105G | 1MF 50V AL E.CAP. | |
| | C961 | QCBB1HK-331Y | 330PF 50V CER.CAP. | |
| | C962 | QCBB1HK-331Y | 330PF 50V CER.CAP. | |
| | | RESISTORS | | |
| | R301 | QRD161J-222 | 2.2K 1/6W CARBON RES. | |
| | R302 | QRD161J-222 | 2.2K 1/6W CARBON RES. | |
| | R303 | QRD161J-473 | 47K 1/6W CARBON RES. | |
| | R304 | QRD161J-473 | 47K 1/6W CARBON RES. | |
| | R305 | QRD161J-621 | 620 1/6W CARBON RES. | |
| | R306 | QRD161J-621 | 620 1/6W CARBON RES. | |
| | R307 | QRD161J-393 | 39K 1/6W CARBON RES. | |
| | R308 | QRD161J-393 | 39K 1/6W CARBON RES. | |
| | R309 | QRD161J-474 | 470K 1/6W CARBON RES. | |
| | R310 | QRD161J-474 | 470K 1/6W CARBON RES. | |
| | R311 | QRD161J-104 | 100K 1/6W CARBON RES. | |
| | R312 | QRD161J-104 | 100K 1/6W CARBON RES. | |
| | R313 | QRD161J-331 | 330 1/6W CARBON RES. | |
| | R314 | QRD161J-331 | 330 1/6W CARBON RES. | |
| | R325 | QRD161J-102 | 1K 1/6W CARBON RES. | |
| | R331 | QRD161J-821 | 820 1/6W CARBON RES. | |
| | R332 | QRD161J-821 | 820 1/6W CARBON RES. | |
| | R333 | QRD161J-202 | 2K 1/6W CARBON RES. | |
| | R334 | QRD161J-103 | 10K 1/6W CARBON RES. | |
| | R341 | QRD161J-104 | 100K 1/6W CARBON RES. | |
| | R342 | QRD161J-104 | 100K 1/6W CARBON RES. | |
| | R343 | QRD161J-104 | 100K 1/6W CARBON RES. | |
| | R344 | QRD161J-104 | 100K 1/6W CARBON RES. | |
| | R351 | QRD161J-473 | 47K 1/6W CARBON RES. | |
| | R352 | QRD161J-473 | 47K 1/6W CARBON RES. | |
| | R353 | QRD161J-104 | 100K 1/6W CARBON RES. | |
| | R354 | QRD161J-104 | 100K 1/6W CARBON RES. | |
| | R355 | QRD161J-102 | 1K 1/6W CARBON RES. | |
| | R356 | QRD161J-102 | 1K 1/6W CARBON RES. | |
| | R357 | QRD161J-103 | 10K 1/6W CARBON RES. | |
| | R358 | QRD161J-103 | 10K 1/6W CARBON RES. | |
| | R361 | QRD161J-104 | 100K 1/6W CARBON RES. | |
| | R362 | QRD161J-104 | 100K 1/6W CARBON RES. | |
| | R363 | QRD161J-243 | 24K 1/6W CARBON RES. | |
| | R364 | QRD161J-243 | 24K 1/6W CARBON RES. | |
| | R365 | QRD161J-103 | 10K 1/6W CARBON RES. | |
| | R366 | QRD161J-103 | 10K 1/6W CARBON RES. | |
| | R369 | QRD161J-104 | 100K 1/6W CARBON RES. | |
| | R370 | QRD161J-104 | 100K 1/6W CARBON RES. | |
| | R371 | QRD161J-102 | 1K 1/6W CARBON RES. | |
| | R372 | QRD161J-102 | 1K 1/6W CARBON RES. | |
| | R373 | QRD161J-222 | 2.2K 1/6W CARBON RES. | |
| | R374 | QRD161J-222 | 2.2K 1/6W CARBON RES. | |
| | R375 | QRD161J-102 | 1K 1/6W CARBON RES. | |
| | R381 | QRD161J-471 | 470 1/6W CARBON RES. | |
| | R382 | QRD161J-471 | 470 1/6W CARBON RES. | |
| | R385 | QRD161J-471 | 470 1/6W CARBON RES. | |
| | R386 | QRD161J-471 | 470 1/6W CARBON RES. | |
| | R387 | QRD161J-471 | 470 1/6W CARBON RES. | |
| | R388 | QRD161J-471 | 470 1/6W CARBON RES. | |
| | R389 | QRD161J-471 | 470 1/6W CARBON RES. | |
| | R390 | QRD161J-471 | 470 1/6W CARBON RES. | |

| ⚠ | Item | Parts Number | Description | Area |
|---|---|---|---|---|
| | R393 | QRD161J-471 | 470 1/6W CARBON RES. | |
| | R394 | QRD161J-471 | 470 1/6W CARBON RES. | |
| | R395 | QRD161J-471 | 470 1/6W CARBON RES. | |
| | R396 | QRD161J-471 | 470 1/6W CARBON RES. | |
| | R397 | QRD161J-471 | 470 1/6W CARBON RES. | |
| | R398 | QRD161J-471 | 470 1/6W CARBON RES. | |
| | R401 | QRD161J-104 | 100K 1/6W CARBON RES. | |
| | R402 | QRD161J-104 | 100K 1/6W CARBON RES. | |
| | R409 | QRD161J-331 | 330 1/6W CARBON RES. | |
| | R410 | QRD167J-223 | 22K 1/6W CARBON RES. | |
| | R411 | QRD161J-221 | 220 1/6W CARBON RES. | |
| | R412 | QRD161J-221 | 220 1/6W CARBON RES. | |
| | R413 | QRD161J-221 | 220 1/6W CARBON RES. | |
| | R414 | QRD167J-431 | 430 1/6W CARBON RES. | |
| | R416 | QRD161J-472 | 4.7K 1/6W CARBON RES. | |
| | R417 | QRD161J-103 | 10K 1/6W CARBON RES. | |
| | R418 | QRD161J-472 | 4.7K 1/6W CARBON RES. | |
| | R421 | QRD161J-221 | 220 1/6W CARBON RES. | |
| | R422 | QRD161J-221 | 220 1/6W CARBON RES. | |
| | R423 | QRD161J-221 | 220 1/6W CARBON RES. | |
| | R424 | QRD161J-221 | 220 1/6W CARBON RES. | |
| | R425 | QRD161J-221 | 220 1/6W CARBON RES. | |
| | R426 | QRD161J-221 | 220 1/6W CARBON RES. | |
| | R427 | QRD161J-221 | 220 1/6W CARBON RES. | |
| | R428 | QRD161J-221 | 220 1/6W CARBON RES. | |
| | R429 | QRD161J-221 | 220 1/6W CARBON RES. | |
| | R430 | QRD161J-221 | 220 1/6W CARBON RES. | |
| | R431 | QRD161J-221 | 220 1/6W CARBON RES. | |
| | R432 | QRD161J-221 | 220 1/6W CARBON RES. | |
| | R433 | QRD161J-221 | 220 1/6W CARBON RES. | |
| | R434 | QRD161J-221 | 220 1/6W CARBON RES. | |
| | R435 | QRD161J-221 | 220 1/6W CARBON RES. | |
| | R436 | QRD161J-221 | 220 1/6W CARBON RES. | |
| | R437 | QRD161J-221 | 220 1/6W CARBON RES. | |
| | R438 | QRD161J-221 | 220 1/6W CARBON RES. | |
| | R439 | QRD161J-221 | 220 1/6W CARBON RES. | |
| | R440 | QRD161J-221 | 220 1/6W CARBON RES. | |
| | R441 | QRD161J-221 | 220 1/6W CARBON RES. | |
| | R451 | QRD161J-103 | 10K 1/6W CARBON RES. | |
| | R454 | QRD161J-471 | 470 1/6W CARBON RES. | |
| ⚠ | R471 | QRG022J-680AM | 68 2W OXIDE METAL | |
| | R474 | QRG022J-180AF | 18 2W OXIDE METAL | |
| | R491 | QRD161J-221 | 220 1/6W CARBON RES. | |
| | R492 | QRD161J-471 | 470 1/6W CARBON RES. | |
| | R501 | QRD161J-202 | 2K 1/6W CARBON RES. | |
| | R503 | QRD167J-223 | 22K 1/6W CARBON RES. | |
| | R504 | QRD167J-223 | 22K 1/6W CARBON RES. | |
| | R505 | QRD167J-223 | 22K 1/6W CARBON RES. | |
| | R506 | QRD167J-223 | 22K 1/6W CARBON RES. | |
| | R507 | QRD161J-103 | 10K 1/6W CARBON RES. | |
| | R508 | QRD161J-103 | 10K 1/6W CARBON RES. | |
| | R641 | QRD161J-102 | 1K 1/6W CARBON RES. | |
| | R642 | QRD161J-102 | 1K 1/6W CARBON RES. | |
| | R643 | QRD161J-203 | 20K 1/6W CARBON RES. | |
| | R644 | QRD161J-393 | 39K 1/6W CARBON RES. | |
| | R651 | QRD161J-105 | 1M 1/6W CARBON RES. | |
| | R669 | QRD167J-152 | 1.5K 1/6W CARBON RES. | |
| | R671 | QRD167J-151 | 150 1/6W CARBON RES. | |
| | R672 | QRD167J-151 | 150 1/6W CARBON RES. | |
| | R675 | QRD161J-271 | 270 1/6W CARBON RES. | |
| | R676 | QRD161J-271 | 270 1/6W CARBON RES. | |
| | R683 | QRD167J-152 | 1.5K 1/6W CARBON RES. | |
| | R893 | QRD161J-103 | 10K 1/6W CARBON RES. | |
| | R894 | QRD161J-202 | 2K 1/6W CARBON RES. | |
| | RA401 | QRB049J-103 | 10K 1/10WRES. | |
| | VR551 | QVDC94Z-E15FJ5 | 100K VARIABLE RE | |
| | VR891 | QVDB92C-E15DJ3 | 100K VARIABLE RE | |
| | | OTHERS | | |
| | | EMW10625-003 | PRINTED BOARD | |
| | | SBSG3008CC | TAPPING SCREW | |
| | J301 | EMN00TV-422AJ2 | PIN JACK | |
| | J302 | EMN00TV-422AJ2 | PIN JACK | |
| | J304 | EMN00TV-420AJ2 | PIN JACK | |
| | J305 | EMN00TV-420AJ2 | PIN JACK | |
| | J491 | QMS3501-021 | PIN JACK | |
| | J961 | QMS6022-V01 | MICROPHONE JACK | |
| | S401 | ESP0001-023M | TACT SWITCH | |
| | S402 | ESP0001-023M | TACT SWITCH | |

## Electrcal Parts List(ENB-234)

| ⚠ | Item | Parts Number | Description | Area |
|---|---|---|---|---|
| | S403 | ESP0001-023M | TACT SWITCH | |
| | S404 | ESP0001-023M | TACT SWITCH | |
| | S405 | ESP0001-023M | TACT SWITCH | |
| | S406 | ESP0001-023M | TACT SWITCH | |
| | S407 | ESP0001-023M | TACT SWITCH | |
| | S408 | ESP0001-023M | TACT SWITCH | |
| | S409 | ESP0001-023M | TACT SWITCH | |
| | S410 | ESP0001-023M | TACT SWITCH | |
| | S411 | ESP0001-023M | TACT SWITCH | |
| | S412 | ESP0001-023M | TACT SWITCH | |
| | S413 | ESP0001-023M | TACT SWITCH | |
| | S414 | ESP0001-023M | TACT SWITCH | |
| | S415 | ESP0001-023M | TACT SWITCH | |
| | S416 | ESP0001-023M | TACT SWITCH | |
| | S417 | ESP0001-023M | TACT SWITCH | |
| | S418 | ESP0001-023M | TACT SWITCH | |
| | S419 | ESP0001-023M | TACT SWITCH | |
| | S420 | ESP0001-023M | TACT SWITCH | |
| | S421 | ESP0001-023M | TACT SWITCH | |
| | S422 | ESP0001-023M | TACT SWITCH | |
| | S423 | ESP0001-023M | TACT SWITCH | |
| | S424 | ESP0001-023M | TACT SWITCH | |
| | X401 | ECXP6R0-001ZA | CRYSTAL | |
| | X641 | ECXP8R0-001Z | CRYSTAL | |
| | CN301 | EMV7163-012 | CONNECT TERMINAL | |
| | CN302 | EMV7163-011 | CONNECT TERMINAL | |
| | CN303 | EMV7163-005 | CONNECTOR | |
| | CN312 | EMV5163-011R | CONNECT TERMINAL | |
| | CN401 | VMC0194-P04 | CONNECT TERMINAL | |
| | CN402 | VMC0194-S06 | CONNECT TERMINAL | |
| | CN403 | VMC0163-R17 | CONNECT TERMINAL | |
| | CN411 | VMC0194-S04 | CONNECT TERMINAL | |
| | CN412 | VMC0194-P06 | CONNECT TERMINAL | |
| | CN413 | EMV7123-017 | CONNECTOR | |
| | CN511 | EMV5163-011R | CONNECT TERMINAL | |
| | CN601 | EWS296-0125 | SOCKET WIRE ASSY | |
| | CN611 | EMV5109-006A | CONNECT TERMINAL | |
| | CN811 | VMC0163-R13 | CONNECT TERMINAL | |
| | DI401 | ELU0001-144 | FLUORESCENT DISPLAY TUBE | |
| | FH001 | E308270-002SM | FL HOLDER | |
| | FH002 | E308270-002SM | FL HOLDER | |
| | FS483 | E3400-431 | FELT SPACER | |
| | FW851 | EWR36D-35LS | FLAT WIRE ASSY | |
| | FW891 | EWR33D-25LS | FLAT WIRE ASSY | |
| | FW961 | EWR33D-35LS | FLAT WIRE ASSY | |
| | HS002 | E70945-H40B | HEAT SINK | |
| | SP001 | E3400-444 | FELT SPACER | |
| | SP002 | E3400-444 | FELT SPACER | |

## Electrcal Parts List(ENA-172)

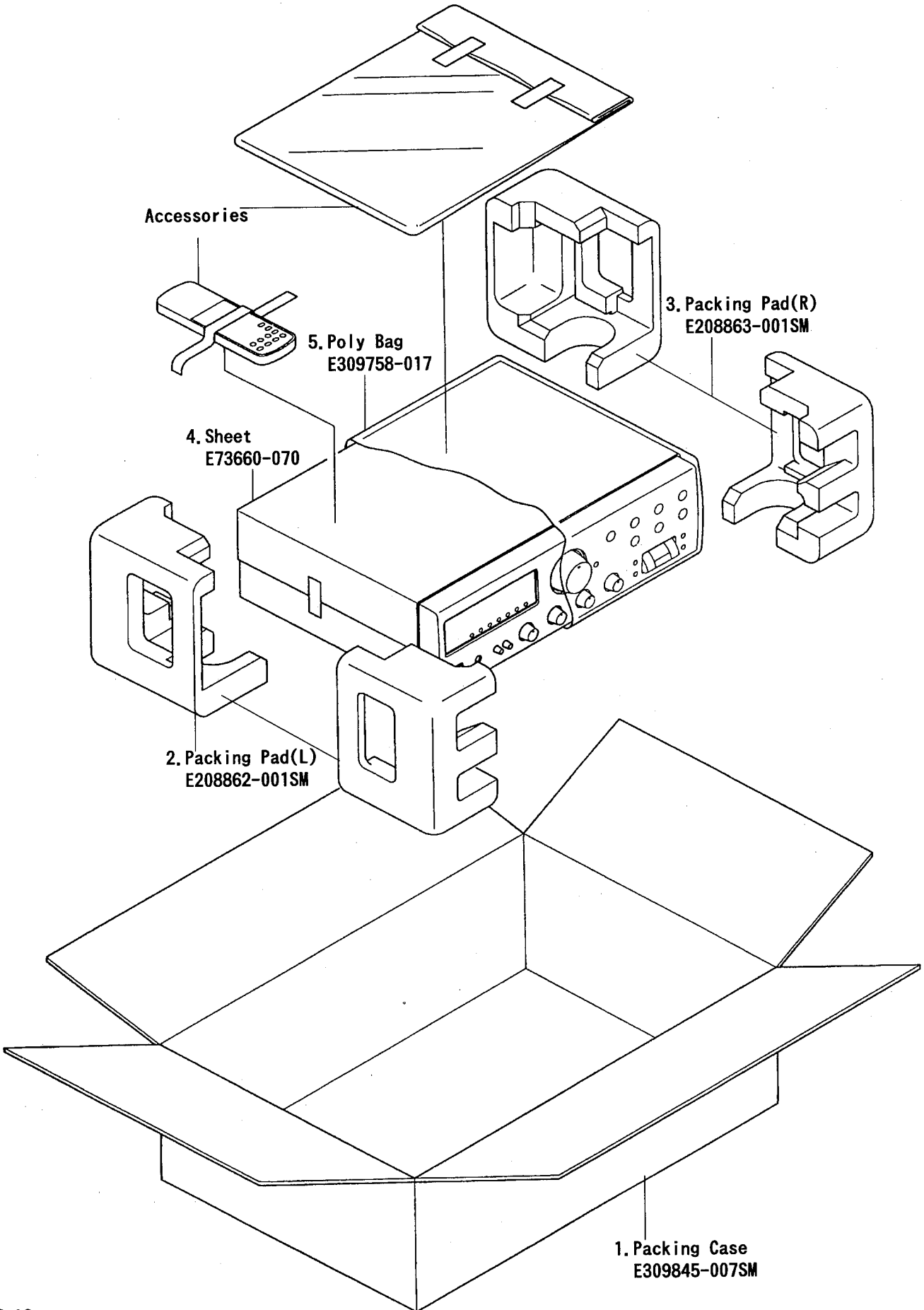
| ⚠ | Item | Parts Number | Description | Area |
|---|---|---|---|---|
| | | I.C.S | | |
| | IC102 | LC72131 | I.C(M) | |
| | IC104 | LA1266A | I.C(MONO-ANALOG) | |
| | IC105 | LA3401 | I.C(MONO-ANALOG) | |
| | | DIODES | | |
| | D101 | 1SS133 | SI.DIODE | |
| | D106 | 1SS133 | SI.DIODE | |
| | D111 | 1SS133 | SI.DIODE | |
| | D112 | 1SS133 | SI.DIODE | |
| | D120 | 1SS133 | SI.DIODE | |
| | D121 | 1SS133 | SI.DIODE | |
| | D122 | 1SS133 | SI.DIODE | |
| | D123 | 1SS133 | SI.DIODE | |
| | VC105 | SVC342(L) | VARI-CAPA DIODE | |
| | | TRANSISTORS | | |
| | Q103 | 2SC461 | SI.TRANSISTOR | |
| | Q107 | 2SC535 | SI.TRANSISTOR | |
| | Q108 | 2SC461 | SI.TRANSISTOR | |
| | Q112 | 2SK301(P,Q) | F.E.T. | |
| | Q123 | DTA144ES | DIGITAL TRANSISTOR | |
| | Q124 | DTA144ES | DIGITAL TRANSISTOR | |
| | Q127 | DTC144ES | DIGITAL TRANSISTOR | |
| | | CAPACITORS | | |
| | C101 | QCF21HP-223A | 0.022MF 50V CER.CAP. | |
| | C122 | QCF21HP-223A | 0.022MF 50V CER.CAP. | |
| | C126 | QCF21HP-223A | 0.022MF 50V CER.CAP. | |
| | C132 | QCS31HJ-561Z | 560PF 50V CER.CAP. | |
| | C133 | QCHB1EZ-223 | 0.022MF 25V CER.CAP. | |
| | C134 | QETB1EM-106 | 10MF 25V AL E.CAP. | |
| | C135 | QCC21EM-223 | 0.022MF 25V CER.CAP. | |
| | C136 | QCT25CH-180Z | 18PF 50V CER.CAP. | |
| | C137 | QCT26CH-221 | 220PF 50V CER.CAP. | |
| | C138 | QCT26CH-241 | 240PF 50V CER.CAP. | |
| | C149 | QCHB1EZ-223 | 0.022MF 25V CER.CAP. | |
| | C150 | QCHB1EZ-223 | 0.022MF 25V CER.CAP. | |
| | C151 | QCF21HP-223A | 0.022MF 50V CER.CAP. | |
| | C152 | QCF21HP-223A | 0.022MF 50V CER.CAP. | |
| | C153 | QCC21EM-223 | 0.022MF 25V CER.CAP. | |
| | C154 | QCF21HP-223A | 0.022MF 50V CER.CAP. | |
| | C155 | QCHB1EZ-223 | 0.022MF 25V CER.CAP. | |
| | C156 | QETB1CM-227 | 220MF 16V AL E.CAP. | |
| | C157 | QETB1HM-474 | 0.47MF 50V E.CAP. | |
| | C158 | QCBB1HK-101Y | 100PF 50V CER.CAP. | |
| | C159 | QCBB1HK-101Y | 100PF 50V CER.CAP. | |
| | C160 | QCBB1HK-221Y | 220PF 50V CER.CAP. | |
| | C161 | QCHB1EZ-223 | 0.022MF 25V CER.CAP. | |
| | C162 | QETB1EM-106 | 10MF 25V AL E.CAP. | |
| | C163 | QFLB1HJ-102 | 1000PF 50V MYLAR CAP. | |
| | C164 | QCHB1EZ-223 | 0.022MF 25V CER.CAP. | |
| | C165 | QETB1HM-474 | 0.47MF 50V E.CAP. | |
| | C166 | QETB1HM-225 | 2.2MF 50V AL E.CAP. | |
| | C167 | QETB1HM-225 | 2.2MF 50V AL E.CAP. | |
| | C168 | QEK51HM-475 | 4.7MF 50V AL E.CAP. | |
| | C169 | QCF21HP-223A | 0.022MF 50V CER.CAP. | |
| | C170 | QCHB1EZ-223 | 0.022MF 25V CER.CAP. | |
| | C171 | QEK51EM-106 | 10MF 25V AL E.CAP. | |
| | C172 | QCVB1CM-103Y | 0.01MF 16V CER.CAP. | |
| | C173 | QFLB1HJ-393 | 0.039MF 50V MYLAR CAP. | |
| | C174 | QFLB1HJ-473 | 0.047MF 50V MYLAR CAP. | |
| | C175 | QETB1EM-106 | 10MF 25V AL E.CAP. | |
| | C176 | QCY31HK-102Z | 1000PF 50V CER.CAP. | |
| | C177 | QCS31HJ-821Z | 820PF 50V CER.CAP. | |
| | C178 | QCS31HJ-821Z | 820PF 50V CER.CAP. | |
| | C179 | QETB1HM-225 | 2.2MF 50V AL E.CAP. | |
| | C180 | QETB1HM-225 | 2.2MF 50V AL E.CAP. | |
| | C181 | QETB1EM-106 | 10MF 25V AL E.CAP. | |
| | C182 | QETB1HM-225 | 2.2MF 50V AL E.CAP. | |
| | C183 | QETB1HM-105 | 1MF 50V AL E.CAP. | |
| | C184 | QETB1HM-105 | 1MF 50V AL E.CAP. | |
| | C185 | QEK51HM-225G | 2.2MF 50V AL E.CAP. | |
| | C186 | QETB1HM-474 | 0.47MF 50V E.CAP. | |
| | C191 | QETB1HM-475E | 4.7MF 50V E.CAP. | |
| | C192 | QCC21EM-473 | 0.047MF 25V CER.CAP. | |
| | C193 | QCS21HJ-180A | 18PF 50V CER.CAP. | |
| | C194 | QCS21HJ-180A | 18PF 50V CER.CAP. | |
| | C195 | QFV71HJ-474ZM | 0.47MF 50V THIN FILM CA | |
| | C196 | QCY31HK-102Z | 1000PF 50V CER.CAP. | |
| | C197 | QCF21HP-223A | 0.022MF 50V CER.CAP. | |

| ⚠ | Item | Parts Number | Description | Area |
|---|---|---|---|---|
| | C198 | QCF21HP-103A | 0.01MF 50V CER.CAP. | |
| | C199 | QCVB1CM-103Y | 0.01MF 16V CER.CAP. | |
| | C222 | QETB1CM-477M | 470MF 16V E.CAP. | |
| | C229 | QETB1CM-227 | 220MF 16V AL E.CAP. | |
| | TC105 | ENZ1003-006 | 00MF TRIMMER CAPA | |
| | | RESISTORS | | |
| | R101 | QRD161J-103 | 10K 1/6W CARBON RES. | |
| | R102 | QRD161J-103 | 10K 1/6W CARBON RES. | |
| | R103 | QRD161J-103 | 10K 1/6W CARBON RES. | |
| | R105 | QRD161J-103 | 10K 1/6W CARBON RES. | |
| | R108 | QRD161J-103 | 10K 1/6W CARBON RES. | |
| ⚠ | R109 | QRD14CJ-680SX | 68 1/4W UNF.CARBON R | |
| | R118 | QRD167J-332 | 3.3K 1/6W CARBON RES. | |
| | R119 | QRD161J-221 | 220 1/6W CARBON RES. | |
| | R121 | QRD161J-391 | 390 1/6W CARBON RES. | |
| | R122 | QRD167J-272 | 2.7K 1/6W CARBON RES. | |
| | R123 | QRD161J-102 | 1K 1/6W CARBON RES. | |
| | R124 | QRD161J-681 | 680 1/6W CARBON RES. | |
| | R125 | QRD167J-332 | 3.3K 1/6W CARBON RES. | |
| | R126 | QRD161J-221 | 220 1/6W CARBON RES. | |
| | R131 | QRD161J-331 | 330 1/6W CARBON RES. | |
| | R132 | QRD161J-103 | 10K 1/6W CARBON RES. | |
| | R133 | QRD161J-473 | 47K 1/6W CARBON RES. | |
| | R135 | QRD161J-470 | 47 1/6W CARBON RES. | |
| | R136 | QRD161J-103 | 10K 1/6W CARBON RES. | |
| | R146 | QRD167J-560 | 56 1/6W CARBON RES. | |
| | R147 | QRD161J-103 | 10K 1/6W CARBON RES. | |
| | R148 | QRD161J-103 | 10K 1/6W CARBON RES. | |
| | R149 | QRD161J-273 | 27K 1/6W CARBON RES. | |
| | R150 | QRD161J-103 | 10K 1/6W CARBON RES. | |
| | R151 | QRD161J-222 | 2.2K 1/6W CARBON RES. | |
| | R153 | QRD161J-103 | 10K 1/6W CARBON RES. | |
| | R154 | QRD161J-103 | 10K 1/6W CARBON RES. | |
| | R155 | QRD167J-562 | 5.6K 1/6W CARBON RES. | |
| | R156 | QRD167J-822 | 8.2K 1/6W CARBON RES. | |
| | R157 | QRD161J-103 | 10K 1/6W CARBON RES. | |
| | R158 | QRD161J-183 | 18K 1/6W CARBON RES. | |
| | R159 | QRD161J-561 | 560 1/6W CARBON RES. | |
| | R160 | QRD167J-562 | 5.6K 1/6W CARBON RES. | |
| | R161 | QRD161J-823 | 82K 1/6W CARBON RES. | |
| | R162 | QRD161J-823 | 82K 1/6W CARBON RES. | |
| | R163 | QRD161J-472 | 4.7K 1/6W CARBON RES. | |
| | R164 | QRD161J-472 | 4.7K 1/6W CARBON RES. | |
| | R165 | QRD161J-184 | 180K 1/6W CARBON RES. | |
| | R166 | QRD161J-184 | 180K 1/6W CARBON RES. | |
| | R167 | QRD161J-393 | 39K 1/6W CARBON RES. | |
| | R168 | QRD161J-103 | 10K 1/6W CARBON RES. | |
| | R169 | QRD161J-103 | 10K 1/6W CARBON RES. | |
| | R171 | QRD167J-682 | 6.8K 1/6W CARBON RES. | |
| | R172 | QRD167J-682 | 6.8K 1/6W CARBON RES. | |
| | R180 | QRD161J-103 | 10K 1/6W CARBON RES. | |
| | R181 | QRD161J-222 | 2.2K 1/6W CARBON RES. | |
| | R190 | QRD161J-103 | 10K 1/6W CARBON RES. | |
| | R191 | QRD167J-562 | 5.6K 1/6W CARBON RES. | |
| | R194 | QRD161J-103 | 10K 1/6W CARBON RES. | |
| | R195 | QRD161J-473 | 47K 1/6W CARBON RES. | |
| | R197 | QRD161J-222 | 2.2K 1/6W CARBON RES. | |
| | R198 | QRD167J-822 | 8.2K 1/6W CARBON RES. | |
| | R199 | QRD161J-472 | 4.7K 1/6W CARBON RES. | |
| | | OTHERS | | |
| | | EMW10604-003 | PRINTED BOARD | |
| | L106 | EQL3001-102K | INDUCTOR | |
| | L120 | EQL4007-1R0 | INDUCTOR | |
| | T101 | EQR1111-014 | RF COIL | |
| | T103 | EQR1207-017 | RF COIL | |
| | T105 | EQT2140-017 | I.F.TRANSFORMER | |
| | T107 | ECB1560-010 | CERAMIC FILTER | |
| | AT101 | FMMB10YV-401K | ANTENNA TERMINAL | |
| | CF101 | ECB2123-006R | CERAMIC FILTER | |
| | CF102 | ECB2123-006R | CERAMIC FILTER | |
| | CN011 | EMV5163-012R | CONNECT TERMINAL | |
| | FE101 | EAF2203-004 | FRONT END | |
| | LP101 | EQF0101-002 | LOWPASS FILTER | |
| | XT102 | ECX0007-200KWJ1 | CRYSTAL | |
| | XT103 | ECX0000-456KR | CERAMIC RESONATOR | |

## Accessorise List

| ⚠ | Item | Parts Number | Parts Name | Q'ty | Description | Area |
|---|---|---|---|---|---|---|
| | 1 | E30580-2457A | INSTRUCTION BOOK | 1 | | J |
| | 1 | E30580-2458A | INSTRUCTION BOOK | 1 | | C |
| | 2 | RM-SR660U | WIRE-LESS REMOTE CONTROL | 1 | | |
| | 3 | R6PRPA-2STSA | DRY CELL | 1 | | |
| | 4 | EWP201-011 | ANTENNA WIRE | 1 | | |
| | 5 | EQB4001-015 | LOOP ANTENNA | 1 | | |
| | 6 | E309758-001 | POLY BAG | 1 | | |
| | - | BT-20044G | SAFETY SHEET | 1 | | J |
| | - | BT-20071B | SERVICE NETWORK | 1 | | C |
| | - | BT-51006-1 | REGISTER CARD | 1 | | J |
| | - | BT-52002-1 | WARRANTY CARD | 1 | | C |

# Packing Materials and Part Numbers



# PARTS LIST

## RX-618VBK

**Note : All printed circuit borad assemblies are not available as service parts.**

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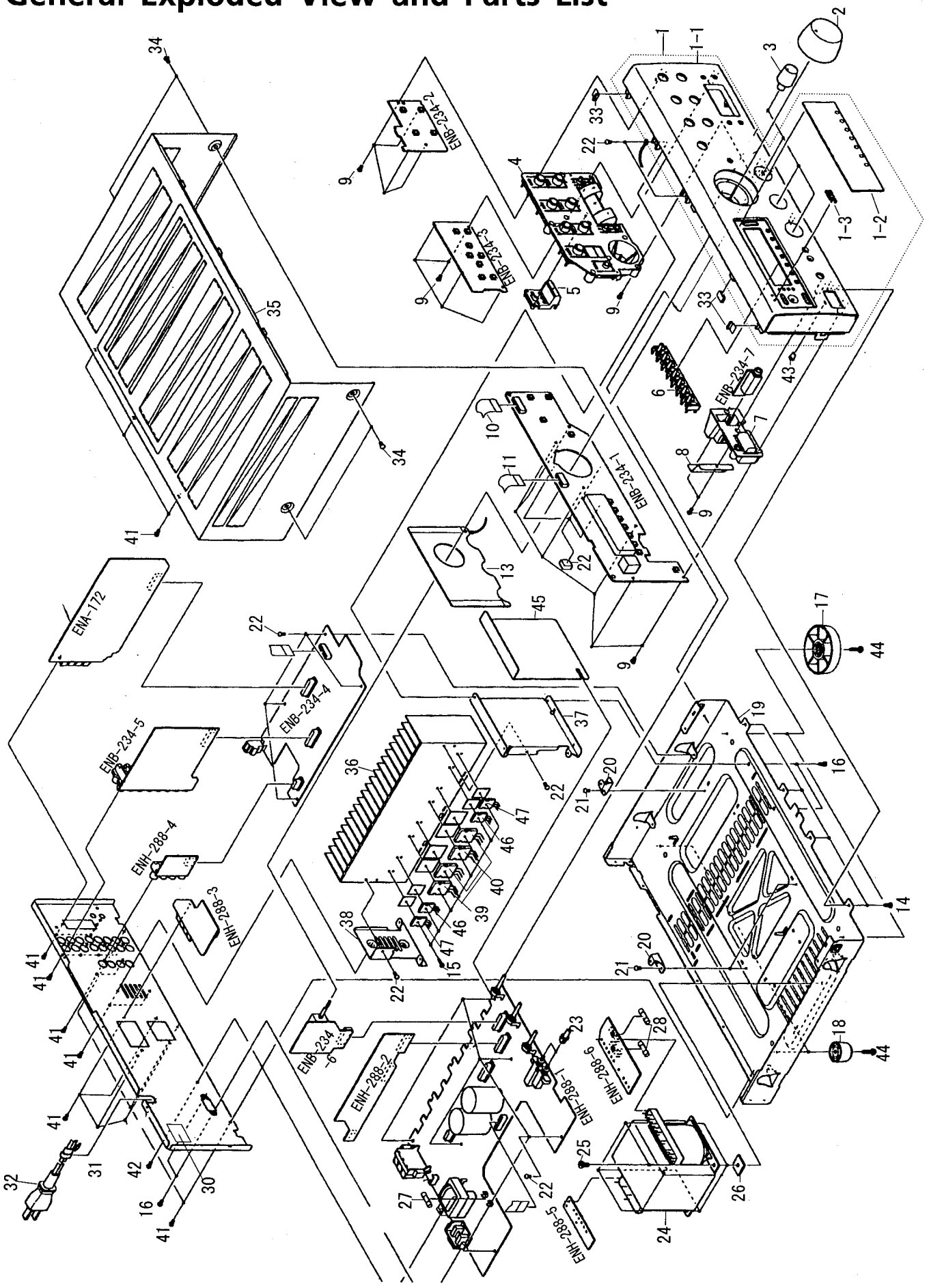
# General Exploded View and Parts List



## Parts List

| ⚠ | Item | Parts Number | Parts Name | Q'ty | Description | Area |
|---|---|---|---|---|---|---|
| | 1 | EFP-RX618VBKJ(S | FRONT PANEL ASS | 1 | | |
| | 1-1 | E103158-002SM | FRONT PANEL | 1 | | |
| | 1-2 | E309419-005SM | WINDOW SCREEN | 1 | | |
| | 1-3 | VJD5429-001 | JVC MARK | 1 | | |
| | 2 | E309465-001SM | VOLUME KNOB | 1 | | |
| | 3 | E309111-003SM | BALANCE KNOB | 3 | | |
| | 4 | E208859-002SM | PUSH BUTTON | 1 | SOURCE | |
| | 5 | E409170-001SM | PUSH BUTTON | 1 | | |
| | 6 | E309418-001SM | PUSH BUTTON | 1 | TUNER | |
| | 7 | E208860-001SM | POWER BUTTON | 1 | POWER | |
| | 8 | E409255-001 | PROTECT COVER | 1 | | |
| | 9 | SDSF2608Z | SCREW | 16 | | |
| | 10 | VWF1217-25TTB | FLAT WIRE ASSY | 1 | FW403 | |
| | 11 | VWF1213-25TTB | FLAT WIRE ASSY | 1 | FW801 | |
| | 12 | E306805-122 | SPACER | 3 | | |
| | 13 | E309955-001 | SHIELD PLATE | 1 | | |
| | 14 | SDSF3008M | WOOD SCREW | 4 | | |
| | 15 | E73525-003 | SCREW | 8 | | |
| | 16 | SDSG3008M | TAPPING SCREW | 4 | | |
| | 17 | VJF4039-00MSM | FOOT ASSY | 2 | | |
| | 18 | E47227-036 | FOOT | 2 | | |
| | 19 | E103157-001SM | CHASSIS BASE | 1 | | |
| | 20 | E68587-223SM | P.W.BOARD BRACKET | 3 | | |
| | 21 | SBST3006CC | TAPPING SCREW | 3 | | |
| | 22 | SBSG3008CC | TAPPING SCREW | 14 | | |
| | 23 | E407321-002SM | PUSH BUTTON | 2 | | |
| ⚠ | 24 | ETP1200-70JAJ | POWER TRANSFORMER | 1 | | |
| | 25 | E65389-006 | SPECIAL SCREW | 4 | | |
| | 26 | E406309-002 | SPACER | 4 | | |
| ⚠ | 27 | QMF0007-6R3J1 | FUSE | 1 | F001 | |
| ⚠ | 28 | QMF0007-2R0J1 | FUSE | 2 | F811/F812 | |
| | 29 | E208855-021SM | REAR PANEL | 1 | | |
| | 30 | E65507-001 | CAUTION LABEL | 1 | | C |
| | 30 | E67199-001 | CAUTION LABEL | 1 | | J |
| ⚠ | 31 | QHS3771-108 | CORD STOPPER | 1 | | |
| ⚠ | 32 | QMP1D00-200H | POWER CORD | 1 | | |
| | 33 | E306805-110 | SPACER | 4 | | C |
| | 34 | E406308-001 | SPECIAL SCREW | 4 | | |
| | 35 | E208858-002 | METAL COVER | 1 | | |
| | 36 | E309840-002SM | HEAT SINK | 1 | | |
| | 37 | E208857-001SM | HEAT SINK BRACKET | 1 | | |
| | 38 | E309841-001SM | HEAT SINK BRACKET | 1 | | |
| | 39 | 2SB1429LB(R,O) | SI.TRANSISTOR | 2 | Q763/Q764 | |
| | 40 | 2SD2155LB(R,O) | SI.TRANSISTOR | 2 | Q761/Q762 | |
| | 41 | E73273-003 | SPECIAL SCREW | 20 | | |
| | 42 | SBST3006M | TAPPING SCREW | 1 | | |
| | 43 | FSJD4001-002 | INDICATOR LENS | 1 | | |
| | 44 | SBST3010Z | TAPPING SCREW | 4 | | |
| | 45 | E309957-001 | PROTECT COVER | 1 | | |
| | 46 | 2SC4278LD(D,E) | SI.TRANSISTOR | 1 | Q057/Q575 | |
| | 47 | 2SA1633LD(D,E) | SI.TRANSISTOR | 1 | Q058/Q576 | |
| | - | E408632-002 | RATING LABEL | 1 | | C |

## Electrcal Parts List(ENH-288)

| ⚠ | Item | Parts Number | Description | Area |
|---|---|---|---|---|
| | | I.C.S | | |
| | IC501 | LB1641 | I.C(DIGI-OTHER) | |
| | IC901 | TA7317P | I.C(MONO-ANALOG) | |
| | | DIODES | | |
| | D007 | MTZ6.2JC | ZENER DIODE | |
| | D008 | 1SS133 | SI.DIODE | |
| | D021 | 1SR139-200 | SI.DIODE | |
| | D022 | 1SR139-200 | SI.DIODE | |
| | D023 | 1SR139-200 | SI.DIODE | |
| | D024 | 1SR139-200 | SI.DIODE | |
| | D053 | 1SS133 | SI.DIODE | |
| | D061 | 1SS133 | SI.DIODE | |
| | D062 | 1SS133 | SI.DIODE | |
| | D065 | 1SS133 | SI.DIODE | |
| | D081 | 1SS133 | SI.DIODE | |
| | D553 | 1SS133 | SI.DIODE | |
| | D563 | 1SS133 | SI.DIODE | |
| | D585 | 1SS133 | SI.DIODE | |
| | D586 | 1SS133 | SI.DIODE | |
| | D591 | 1SS133 | SI.DIODE | |
| | D703 | 1SS133 | SI.DIODE | |
| | D704 | 1SS133 | SI.DIODE | |
| | D781 | 1SS133 | SI.DIODE | |
| | D782 | 1SS133 | SI.DIODE | |
| | D783 | 1SS133 | SI.DIODE | |
| | D784 | 1SS133 | SI.DIODE | |
| ⚠ | D801 | 30D2FC | GE.DIODE | |
| ⚠ | D802 | 30D2FC | GE.DIODE | |
| ⚠ | D803 | 30D2FC | GE.DIODE | |
| ⚠ | D804 | 30D2FC | GE.DIODE | |
| ⚠ | D805 | 30D2FC | GE.DIODE | |
| ⚠ | D806 | 30D2FC | GE.DIODE | |
| ⚠ | D807 | 30D2FC | GE.DIODE | |
| ⚠ | D808 | 30D2FC | GE.DIODE | |
| | D811 | 1SR139-200 | SI.DIODE | |
| | D812 | 1SR139-200 | SI.DIODE | |
| | D813 | 1SS133 | SI.DIODE | |
| | D814 | 1SS133 | SI.DIODE | |
| | D840 | MTZ10JC | ZENER DIODE | |
| | D841 | MTZ16JC | ZENER DIODE | |
| | D842 | 1SS133 | SI.DIODE | |
| | D885 | MTZ6.2JC | ZENER DIODE | |
| | D891 | MTZ6.8JC | ZENER DIODE | |
| | D892 | 1SS133 | SI.DIODE | |
| | D901 | 1SS133 | SI.DIODE | |
| | D902 | 1SS133 | SI.DIODE | |
| | D921 | 1SS133 | SI.DIODE | |
| | D925 | 1SS133 | SI.DIODE | |
| | D951 | 1SS133 | SI.DIODE | |
| | D952 | 1SS133 | SI.DIODE | |
| | | TRANSISTORS | | |
| | Q002 | 2SC2235(O,Y) | SI.TRANSISTOR | |
| | Q003 | DTC114ES | DIGITAL TRANSISTOR | |
| | Q051 | 2SC2240(BL) | SI.TRANSISTOR | |
| | Q052 | 2SC2240(BL) | SI.TRANSISTOR | |
| | Q053 | 2SA1038(R,S) | SI.TRANSISTOR | |
| | Q055 | 2SC2235(O,Y) | SI.TRANSISTOR | |
| | Q056 | 2SA965(Y) | SI.TRANSISTOR | |
| | Q059 | 2SC2389(S,E) | SI.TRANSISTOR | |
| | Q061 | 2SC2389(S,E) | SI.TRANSISTOR | |
| | Q062 | 2SA1038(R,S) | SI.TRANSISTOR | |
| | Q551 | 2SC2240(BL) | SI.TRANSISTOR | |
| | Q552 | 2SC2240(BL) | SI.TRANSISTOR | |
| | Q561 | 2SA1038(R,S) | SI.TRANSISTOR | |
| | Q573 | 2SC2235(O,Y) | SI.TRANSISTOR | |
| | Q574 | 2SA965(Y) | SI.TRANSISTOR | |
| | Q585 | 2SC2389(S,E) | SI.TRANSISTOR | |
| | Q586 | 2SA1038(R,S) | SI.TRANSISTOR | |
| | Q591 | 2SC2389(S,E) | SI.TRANSISTOR | |
| | Q701 | 2SC1775AV(F1) | SI.TRANSISTOR | |
| | Q702 | 2SC1775AV(F1) | SI.TRANSISTOR | |
| | Q703 | 2SC1775AV(F1) | SI.TRANSISTOR | |
| | Q704 | 2SC1775AV(F1) | SI.TRANSISTOR | |
| | Q707 | 2SA1038(R,S) | SI.TRANSISTOR | |
| | Q708 | 2SA1038(R,S) | SI.TRANSISTOR | |
| | Q741 | 2SD636 | SI.TRANSISTOR | |
| | Q742 | 2SD636 | SI.TRANSISTOR | |
| | Q751 | 2SC2389(S,E) | SI.TRANSISTOR | |

| ⚠ | Item | Parts Number | Description | Area |
|---|---|---|---|---|
| | Q752 | 2SC2389(S,E) | SI.TRANSISTOR | |
| | Q753 | 2SA1038(R,S) | SI.TRANSISTOR | |
| | Q754 | 2SA1038(R,S) | SI.TRANSISTOR | |
| | Q755 | 2SC2235(O,Y) | SI.TRANSISTOR | |
| | Q756 | 2SC2235(O,Y) | SI.TRANSISTOR | |
| | Q757 | 2SA965(Y) | SI.TRANSISTOR | |
| | Q758 | 2SA965(Y) | SI.TRANSISTOR | |
| | Q781 | 2SC2389(S,E) | SI.TRANSISTOR | |
| | Q782 | 2SC2389(S,E) | SI.TRANSISTOR | |
| | Q783 | 2SA1038(R,S) | SI.TRANSISTOR | |
| | Q784 | 2SA1038(R,S) | SI.TRANSISTOR | |
| | Q801 | DTC123YS | SI.TRANSISTOR | |
| | Q802 | DTC144ES | DIGITAL TRANSISTOR | |
| | Q841 | 2SB1187(F,G) | SI.TRANSISTOR | |
| | Q885 | 2SC2240(GR,BL) | SI.TRANSISTOR | |
| | Q891 | 2SD2061(F,G) | SI.TRANSISTOR | |
| | Q901 | 2SC2389(S,E) | SI.TRANSISTOR | |
| | Q902 | 2SC2389(S,E) | SI.TRANSISTOR | |
| | Q903 | 2SA1038(R,S) | SI.TRANSISTOR | |
| | Q951 | DTC123YS | SI.TRANSISTOR | |
| | | CAPACITORS | | |
| | C001 | QFN82AK-472 | 4700PF 100V METAL.MYLAR | |
| | C002 | QETB1EM-227 | 220MF 25V AL E.CAP. | |
| ⚠ | C011 | QCZ9019-472 | 4700PF C.CAP. | |
| | C023 | QETB1CM-476 | 47MF 16V AL E.CAP. | |
| | C051 | QETB1HM-106 | 10MF 50V E.CAP. | |
| | C052 | QCS21HJ-271A | 270PF 50V CER.CAP. | |
| | C053 | QCS21HJ-101A | 100PF 50V CER.CAP. | |
| | C057 | QCS21HJ-100 | 10PF 50V CER.CAP. | |
| | C058 | QETB1CM-476 | 47MF 16V AL E.CAP. | |
| | C061 | QETB1HM-225 | 2.2MF 50V AL E.CAP. | |
| | C062 | QFLB1HJ-103 | 0.01MF 50V MYLAR CAP. | |
| | C063 | QCS22HJ-330 | 33PF 500V CER.CAP. | |
| | C064 | QETB1HM-476 | 47MF 50V E.CAP. | |
| | C067 | QETB2AM-106 | 10MF 100V AL E.CAP. | |
| | C071 | QCS22HJ-470A | 47PF 500V CER.CAP. | |
| | C072 | QCS22HJ-470A | 47PF 500V CER.CAP. | |
| | C093 | QFLB1HJ-223 | 0.022MF 50V MYLAR CAP. | J |
| | C093 | QFLB1HJ-473 | 0.047MF 50V MYLAR CAP. | C |
| | C094 | QFLB1HJ-473 | 0.047MF 50V MYLAR CAP. | C |
| | C511 | QCHB1EZ-223 | 0.022MF 25V CER.CAP. | |
| | C521 | QFLB1HJ-332 | 3300PF 50V MYLAR CAP. | |
| | C522 | QFLB1HJ-332 | 3300PF 50V MYLAR CAP. | |
| | C523 | QFLB1HJ-183 | 0.018MF 50V MYLAR CAP. | |
| | C524 | QFLB1HJ-183 | 0.018MF 50V MYLAR CAP. | |
| | C531 | QETB1HM-105 | 1MF 50V AL E.CAP. | |
| | C532 | QETB1HM-105 | 1MF 50V AL E.CAP. | |
| | C533 | QFLB1HJ-153 | 0.015MF 50V MYLAR CAP. | |
| | C534 | QFLB1HJ-153 | 0.015MF 50V MYLAR CAP. | |
| | C535 | QFLB1HJ-823 | 0.082MF 50V MYLAR CAP. | |
| | C536 | QFLB1HJ-823 | 0.082MF 50V MYLAR CAP. | |
| | C537 | QETB1HM-105 | 1MF 50V AL E.CAP. | |
| | C538 | QETB1HM-105 | 1MF 50V AL E.CAP. | |
| | C551 | QETB1HM-106 | 10MF 50V E.CAP. | |
| | C552 | QCS21HJ-271A | 270PF 50V CER.CAP. | |
| | C553 | QCS21HJ-101A | 100PF 50V CER.CAP. | |
| | C556 | QCY31HK-152Z | 1500PF 50V CER.CAP. | |
| | C557 | QCS21HJ-100 | 10PF 50V CER.CAP. | |
| | C558 | QETB1CM-476 | 47MF 16V AL E.CAP. | |
| | C561 | QETB1HM-225 | 2.2MF 50V AL E.CAP. | |
| | C562 | QCS22HJ-330 | 33PF 500V CER.CAP. | |
| | C563 | QFLB1HJ-103 | 0.01MF 50V MYLAR CAP. | |
| | C564 | QETB1HM-476 | 47MF 50V E.CAP. | |
| | C571 | QCS22HJ-470A | 47PF 500V CER.CAP. | |
| | C572 | QCS22HJ-470A | 47PF 500V CER.CAP. | |
| | C581 | QFLB1HJ-223 | 0.022MF 50V MYLAR CAP. | J |
| | C581 | QFLB1HJ-473 | 0.047MF 50V MYLAR CAP. | C |
| | C582 | QFLB1HJ-473 | 0.047MF 50V MYLAR CAP. | C |
| | C599 | QETB1HM-476 | 47MF 50V E.CAP. | |
| | C671 | QETBOJM-108N | 1000MF 6.3V E.CAP. | |
| | C672 | QETBOJM-108N | 1000MF 6.3V E.CAP. | |
| | C673 | QETB1HM-475E | 4.7MF 50V E.CAP. | |
| | C674 | QETB1HM-475E | 4.7MF 50V E.CAP. | |
| | C701 | EETB1HM-106E | 10MF 50V E.CAP. | |
| | C702 | EETB1HM-106E | 10MF 50V E.CAP. | |
| | C703 | QCS21HJ-271A | 270PF 50V CER.CAP. | |
| | C704 | QCS21HJ-271A | 270PF 50V CER.CAP. | |
| | C705 | QCS21HJ-101A | 100PF 50V CER.CAP. | |

## Electrcal Parts List(ENH-288)

| ⚠ | Item | Parts Number | Description | Area |
|---|---|---|---|---|
| | C706 | QCS21HJ-101A | 100PF 50V CER. CAP. | |
| | C711 | QEHB1HM-476 | 47MF 50V AL E. CAP. | |
| | C712 | QEHB1HM-476 | 47MF 50V AL E. CAP. | |
| | C713 | QCS21HJ-100 | 10PF 50V CER. CAP. | |
| | C714 | QCS21HJ-100 | 10PF 50V CER. CAP. | |
| | C717 | QCY31HK-152Z | 1500PF 50V CER. CAP. | |
| | C718 | QCY31HK-152Z | 1500PF 50V CER. CAP. | |
| | C721 | QCS22HJ-220 | 22PF 500V CER. CAP. | |
| | C722 | QCS22HJ-220 | 22PF 500V CER. CAP. | |
| | C723 | EETB1HM-225E | 2.2MF 50V E. CAP. | |
| | C724 | EETB1HM-225E | 2.2MF 50V E. CAP. | |
| | C725 | QEHC1HM-226 | 22MF 50V E. CAP. | |
| | C726 | QEHC1HM-226 | 22MF 50V E. CAP. | |
| | C727 | QFLB1HJ-472 | 4700PF 50V MYLAR CAP. | |
| | C728 | QFLB1HJ-472 | 4700PF 50V MYLAR CAP. | |
| | C739 | QETB1JM-107 | 100MF 63V AL E. CAP. | |
| | C751 | QCS22HJ-470A | 47PF 500V CER. CAP. | |
| | C752 | QCS22HJ-470A | 47PF 500V CER. CAP. | |
| | C753 | QCS22HJ-470A | 47PF 500V CER. CAP. | |
| | C754 | QCS22HJ-470A | 47PF 500V CER. CAP. | |
| | C771 | QFLB1HJ-473 | 0.047MF 50V MYLAR CAP. | C |
| | C772 | QFLB1HJ-473 | 0.047MF 50V MYLAR CAP. | C |
| | C773 | QFLB1HJ-223 | 0.022MF 50V MYLAR CAP. | J |
| | C773 | QFLB1HJ-473 | 0.047MF 50V MYLAR CAP. | C |
| | C774 | QFLB1HJ-223 | 0.022MF 50V MYLAR CAP. | J |
| | C774 | QFLB1HJ-473 | 0.047MF 50V MYLAR CAP. | C |
| | C801 | QEZ0224-688 | 6800MF E. CAP. | |
| | C802 | QEZ0224-688 | 6800MF E. CAP. | |
| | C803 | QCE22HP-103A | 0.01MF 500V CER. CAP. | |
| | C804 | QCE22HP-103A | 0.01MF 500V CER. CAP. | |
| | C805 | QCE22HP-103A | 0.01MF 500V CER. CAP. | |
| | C806 | QCE22HP-103A | 0.01MF 500V CER. CAP. | |
| | C807 | QCE22HP-103A | 0.01MF 500V CER. CAP. | |
| | C810 | QFN81HJ-823 | 0.082MF 50V METAL. MYLAR | |
| | C811 | QETB1VM-228N | 2200MF 35V E. CAP. | |
| | C812 | QFN82AJ-104 | 0.1MF 100V MYLAR CAP. | |
| | C813 | QFN82AJ-104 | 0.1MF 100V MYLAR CAP. | |
| | C840 | QETB1HM-476 | 47MF 50V E. CAP. | |
| | C841 | QETB1HM-476 | 47MF 50V E. CAP. | |
| | C854 | QETB1EM-107 | 100MF 25V AL E. CAP. | |
| | C885 | QETB1HM-105 | 1MF 50V AL E. CAP. | |
| | C896 | QETB1EM-107 | 100MF 25V AL E. CAP. | |
| | C903 | QETB1HM-226E | 22MF 50V E. CAP. | |
| | C904 | QCY31HK-102Z | 1000PF 50V CER. CAP. | |
| | C905 | QETB1AM-476 | 47MF 10V E. CAP. | |
| | C906 | QCF21HP-103A | 0.01MF 50V CER. CAP. | |
| | C909 | QETB1CM-226 | 22MF 16V E. CAP. | |
| | C925 | QETB1HM-225 | 2.2MF 50V AL E. CAP. | |
| | | RESISTORS | | |
| ⚠ | R001 | QRC128K-275EM | 2.7M 1/2W COMPOSITION | |
| ⚠ | R011 | QRD14CJ-100SX | 10 1/4W UNF. CARBON R | |
| | R013 | QRD14CJ-821SX | 820 1/4W CARBON RES. | |
| ⚠ | R015 | QRD14CJ-100SX | 10 1/4W UNF. CARBON R | |
| | R051 | QRD161J-222 | 2.2K 1/6W CARBON RES. | |
| | R052 | QRD161J-104 | 100K 1/6W CARBON RES. | |
| | R053 | QRD161J-202 | 2K 1/6W CARBON RES. | |
| | R054 | QRD161J-202 | 2K 1/6W CARBON RES. | |
| | R055 | QRD161J-123 | 12K 1/6W CARBON RES. | |
| | R057 | QRD161J-104 | 100K 1/6W CARBON RES. | |
| | R058 | QRD161J-621 | 620 1/6W CARBON RES. | |
| ⚠ | R061 | QRD14CJ-181S | 180 1/4W UNF. CARBON R | |
| | R062 | QRD167J-332 | 3.3K 1/6W CARBON RES. | |
| | R063 | QRD167J-332 | 3.3K 1/6W CARBON RES. | |
| | R064 | QRD167J-332 | 3.3K 1/6W CARBON RES. | |
| | R065 | QRD167J-332 | 3.3K 1/6W CARBON RES. | |
| ⚠ | R067 | QRD14CJ-331SX | 330 1/4W UNF. CARBON R | |
| ⚠ | R068 | QRD14CJ-331SX | 330 1/4W UNF. CARBON R | |
| ⚠ | R072 | QRD14CJ-561SX | 560 1/4W UNF. CARBON R | |
| ⚠ | R073 | QRD145J-150S | 15 1/4W UNF. CARBON R | |
| ⚠ | R074 | QRD145J-150S | 15 1/4W UNF. CARBON R | |
| ⚠ | R077 | ERF032K-R22 | 0.22 3W CEM. RES. | |
| ⚠ | R078 | QRD125J-330 | 33 1/2W UNF. CARBON R | |
| | R081 | QRD161J-102 | 1K 1/6W CARBON RES. | |
| | R082 | QRD161J-183 | 18K 1/6W CARBON RES. | |
| | R083 | QRD161J-123 | 12K 1/6W CARBON RES. | |
| | R090 | ERT-D2WHL202S | 2K 1/4W NEGATIVE THE | |
| | R091 | QRD161J-820 | 82 1/6W CARBON RES. | |
| | R092 | QRD161J-391 | 390 1/6W CARBON RES. | |

| ⚠ | Item | Parts Number | Description | Area |
|---|---|---|---|---|
| | R093 | QRD161J-181 | 180 1/6W CARBON RES. | |
| | R094 | QRD161J-181 | 180 1/6W CARBON RES. | |
| | R095 | QRD161J-181 | 180 1/6W CARBON RES. | |
| | R096 | QRD161J-181 | 180 1/6W CARBON RES. | |
| ⚠ | R097 | QRG022J-100A | 10 2W OXIDE METAL | |
| | R098 | QRD161J-104 | 100K 1/6W CARBON RES. | |
| | R511 | QRD161J-102 | 1K 1/6W CARBON RES. | |
| | R512 | QRD161J-242 | 2.4K 1/6W CARBON RES. | |
| | R523 | QRD161J-472 | 4.7K 1/6W CARBON RES. | |
| | R524 | QRD161J-472 | 4.7K 1/6W CARBON RES. | |
| | R525 | QRD161J-122 | 1.2K 1/6W CARBON RES. | |
| | R526 | QRD161J-122 | 1.2K 1/6W CARBON RES. | |
| | R533 | QRD161J-203 | 20K 1/6W CARBON RES. | |
| | R534 | QRD161J-203 | 20K 1/6W CARBON RES. | |
| | R535 | QRD161J-362 | 3.6K 1/6W CARBON RES. | |
| | R536 | QRD161J-362 | 3.6K 1/6W CARBON RES. | |
| | R551 | QRD161J-222 | 2.2K 1/6W CARBON RES. | |
| | R552 | QRD161J-104 | 100K 1/6W CARBON RES. | |
| | R553 | QRD161J-202 | 2K 1/6W CARBON RES. | |
| | R554 | QRD161J-202 | 2K 1/6W CARBON RES. | |
| | R555 | QRD161J-103 | 10K 1/6W CARBON RES. | |
| | R556 | QRD161J-101 | 100 1/6W CARBON RES. | |
| | R557 | QRD161J-823 | 82K 1/6W CARBON RES. | |
| | R558 | QRD161J-621 | 620 1/6W CARBON RES. | |
| | R560 | QRD161J-133Y | 13K 1/6W CARBON RES. | |
| ⚠ | R561 | QRD14CJ-221S | 220 1/4W UNF. CARBON R | |
| | R562 | QRD161J-820 | 82 1/6W CARBON RES. | |
| | R563 | QRD167J-332 | 3.3K 1/6W CARBON RES. | |
| | R564 | QRD167J-332 | 3.3K 1/6W CARBON RES. | |
| | R565 | QRD167J-332 | 3.3K 1/6W CARBON RES. | |
| | R566 | QRD167J-332 | 3.3K 1/6W CARBON RES. | |
| | R567 | QRD161J-391 | 390 1/6W CARBON RES. | |
| | R568 | ERT-D2WHL202S | 2K 1/4W NEGATIVE THE | |
| ⚠ | R569 | QRD14CJ-100SX | 10 1/4W UNF. CARBON R | |
| ⚠ | R570 | QRD14CJ-100SX | 10 1/4W UNF. CARBON R | |
| ⚠ | R571 | QRD14CJ-100SX | 10 1/4W UNF. CARBON R | |
| ⚠ | R572 | QRD14CJ-100SX | 10 1/4W UNF. CARBON R | |
| ⚠ | R575 | QRD145J-150S | 15 1/4W UNF. CARBON R | |
| ⚠ | R576 | QRD145J-150S | 15 1/4W UNF. CARBON R | |
| ⚠ | R577 | ERF032K-R22 | 0.22 3W CEM. RES. | |
| ⚠ | R578 | QRD14CJ-561SX | 560 1/4W UNF. CARBON R | |
| ⚠ | R581 | QRD125J-330 | 33 1/2W UNF. CARBON R | |
| ⚠ | R582 | QRG022J-100A | 10 2W OXIDE METAL | |
| | R585 | QRD161J-181 | 180 1/6W CARBON RES. | |
| | R586 | QRD161J-181 | 180 1/6W CARBON RES. | |
| | R587 | QRD161J-181 | 180 1/6W CARBON RES. | |
| | R588 | QRD161J-181 | 180 1/6W CARBON RES. | |
| | R591 | QRD161J-102 | 1K 1/6W CARBON RES. | |
| | R592 | QRD161J-183 | 18K 1/6W CARBON RES. | |
| | R593 | QRD161J-123 | 12K 1/6W CARBON RES. | |
| | R594 | QRD161J-104 | 100K 1/6W CARBON RES. | |
| | R661 | QRD161J-750 | 75 1/6W CARBON RES. | |
| | R662 | QRD161J-750 | 75 1/6W CARBON RES. | |
| | R663 | QRD161J-750 | 75 1/6W CARBON RES. | |
| | R664 | QRD161J-750 | 75 1/6W CARBON RES. | |
| | R665 | QRD161J-473 | 47K 1/6W CARBON RES. | |
| | R666 | QRD161J-473 | 47K 1/6W CARBON RES. | |
| | R667 | QRD161J-331 | 330 1/6W CARBON RES. | |
| | R668 | QRD161J-331 | 330 1/6W CARBON RES. | |
| | R701 | QRD161J-222 | 2.2K 1/6W CARBON RES. | |
| | R702 | QRD161J-222 | 2.2K 1/6W CARBON RES. | |
| | R703 | QRD161J-104 | 100K 1/6W CARBON RES. | |
| | R704 | QRD161J-104 | 100K 1/6W CARBON RES. | |
| | R705 | QRD161J-202 | 2K 1/6W CARBON RES. | |
| | R706 | QRD161J-202 | 2K 1/6W CARBON RES. | |
| | R707 | QRD161J-202 | 2K 1/6W CARBON RES. | |
| | R708 | QRD161J-202 | 2K 1/6W CARBON RES. | |
| | R709 | QRD161J-133Y | 13K 1/6W CARBON RES. | |
| | R710 | QRD161J-133Y | 13K 1/6W CARBON RES. | |
| | R711 | QRD161J-621 | 620 1/6W CARBON RES. | |
| | R712 | QRD161J-621 | 620 1/6W CARBON RES. | |
| | R713 | QRD161J-133Y | 13K 1/6W CARBON RES. | |
| | R714 | QRD161J-133Y | 13K 1/6W CARBON RES. | |
| | R715 | QRD161J-823 | 82K 1/6W CARBON RES. | |
| | R716 | QRD161J-823 | 82K 1/6W CARBON RES. | |
| | R717 | QRD161J-101 | 100 1/6W CARBON RES. | |
| | R718 | QRD161J-101 | 100 1/6W CARBON RES. | |
| ⚠ | R721 | QRD14CJ-151SX | 150 1/4W UNF. CARBON R | |

## Electrcal Parts List(ENH-288)

| ⚠ | Item | Parts Number | Description | Area |
|---|---|---|---|---|
| ⚠ | R722 | QRD14CJ-151SX | 150 1/4W UNF. CARBON R | |
| | R727 | QRD167J-332 | 3.3K 1/6W CARBON RES. | |
| | R728 | QRD167J-332 | 3.3K 1/6W CARBON RES. | |
| | R729 | QRD167J-332 | 3.3K 1/6W CARBON RES. | |
| | R730 | QRD167J-332 | 3.3K 1/6W CARBON RES. | |
| | R731 | QRD167J-332 | 3.3K 1/6W CARBON RES. | |
| | R732 | QRD167J-332 | 3.3K 1/6W CARBON RES. | |
| | R733 | QRD167J-332 | 3.3K 1/6W CARBON RES. | |
| | R734 | QRD167J-332 | 3.3K 1/6W CARBON RES. | |
| ⚠ | R739 | QRD14CJ-100SX | 10 1/4W UNF. CARBON R | |
| ⚠ | R740 | QRD14CJ-100SX | 10 1/4W UNF. CARBON R | |
| | R743 | QRD167J-152 | 1.5K 1/6W CARBON RES. | |
| | R744 | QRD167J-152 | 1.5K 1/6W CARBON RES. | |
| | R745 | QRD161J-391 | 390 1/6W CARBON RES. | |
| | R746 | QRD161J-391 | 390 1/6W CARBON RES. | |
| | R747 | QRD161J-102 | 1K 1/6W CARBON RES. | |
| | R748 | QRD161J-102 | 1K 1/6W CARBON RES. | |
| | R749 | ERT-D2WHL202S | 2K 1/4W NEGATIVE THE | |
| | R750 | ERT-D2WHL202S | 2K 1/4W NEGATIVE THE | |
| ⚠ | R751 | QRD14CJ-100SX | 10 1/4W UNF. CARBON R | |
| ⚠ | R752 | QRD14CJ-100SX | 10 1/4W UNF. CARBON R | |
| ⚠ | R753 | QRD14CJ-100SX | 10 1/4W UNF. CARBON R | |
| ⚠ | R754 | QRD14CJ-100SX | 10 1/4W UNF. CARBON R | |
| ⚠ | R755 | QRD14CJ-100SX | 10 1/4W UNF. CARBON R | |
| ⚠ | R756 | QRD14CJ-100SX | 10 1/4W UNF. CARBON R | |
| ⚠ | R757 | QRD14CJ-100SX | 10 1/4W UNF. CARBON R | |
| ⚠ | R758 | QRD14CJ-100SX | 10 1/4W UNF. CARBON R | |
| ⚠ | R759 | QRD14CJ-272S | 2.7K 1/4W UNF. CARBON R | |
| ⚠ | R760 | QRD14CJ-272S | 2.7K 1/4W UNF. CARBON R | |
| ⚠ | R765 | QRD14CJ-271S | 270 1/4W UNF. CARBON R | |
| ⚠ | R766 | QRD14CJ-271S | 270 1/4W UNF. CARBON R | |
| ⚠ | R767 | QRD14CJ-100SX | 10 1/4W UNF. CARBON R | |
| ⚠ | R768 | QRD14CJ-100SX | 10 1/4W UNF. CARBON R | |
| ⚠ | R769 | QRD14CJ-100SX | 10 1/4W UNF. CARBON R | |
| ⚠ | R770 | QRD14CJ-100SX | 10 1/4W UNF. CARBON R | |
| ⚠ | R771 | ERF032K-R22 | 0.22 3W CEM. RES. | |
| ⚠ | R772 | ERF032K-R22 | 0.22 3W CEM. RES. | |
| ⚠ | R773 | QRD125J-330 | 33 1/2W UNF. CARBON R | |
| ⚠ | R774 | QRD125J-330 | 33 1/2W UNF. CARBON R | |
| ⚠ | R775 | QRG022J-100A | 10 2W OXIDE METAL | |
| ⚠ | R776 | QRG022J-100A | 10 2W OXIDE METAL | |
| | R781 | QRD161J-181 | 180 1/6W CARBON RES. | |
| | R782 | QRD161J-181 | 180 1/6W CARBON RES. | |
| | R783 | QRD161J-181 | 180 1/6W CARBON RES. | |
| | R784 | QRD161J-181 | 180 1/6W CARBON RES. | |
| | R785 | QRD167J-121 | 120 1/6W CARBON RES. | |
| | R786 | QRD167J-121 | 120 1/6W CARBON RES. | |
| | R787 | QRD167J-121 | 120 1/6W CARBON RES. | |
| | R788 | QRD167J-121 | 120 1/6W CARBON RES. | |
| | R801 | QRD161J-104 | 100K 1/6W CARBON RES. | |
| | R802 | QRD161J-104 | 100K 1/6W CARBON RES. | |
| ⚠ | R808 | QRD14CJ-3R3S | 3.3 1/4W UNF. CARBON R | |
| ⚠ | R812 | QRD14CJ-220S | 22 1/4W UNF. CARBON R | |
| | R820 | QRD167J-332 | 3.3K 1/6W CARBON RES. | |
| ⚠ | R840 | QRD14CJ-220S | 22 1/4W UNF. CARBON R | |
| ⚠ | R841 | QRG022J-331A | 330 2W OXIDE METAL | |
| | R842 | QRD14CJ-103SX | 10K 1/4W CARBON RES. | |
| | R845 | QRD14CJ-102SX | 1K 1/4W UNF. CARBON R | |
| ⚠ | R853 | QRX012J-2R2AF | 2.2 1W METAL FILM R | |
| ⚠ | R854 | QRD12CJ-822S | 8.2K 1/2W NETWORK RES. | |
| | R885 | QRD161J-104 | 100K 1/6W CARBON RES. | |
| ⚠ | R891 | QRD14CJ-100SX | 10 1/4W UNF. CARBON R | |
| ⚠ | R892 | QRD14CJ-272S | 2.7K 1/4W UNF. CARBON R | |
| | R901 | QRD161J-102 | 1K 1/6W CARBON RES. | |
| | R902 | QRD161J-102 | 1K 1/6W CARBON RES. | |
| | R903 | QRD167J-153 | 15K 1/6W CARBON RES. | |
| | R904 | QRD167J-153 | 15K 1/6W CARBON RES. | |
| | R905 | QRD161J-123 | 12K 1/6W CARBON RES. | |
| | R906 | QRD161J-123 | 12K 1/6W CARBON RES. | |
| | R909 | QRD161J-104 | 100K 1/6W CARBON RES. | |
| | R910 | QRD161J-823 | 82K 1/6W CARBON RES. | |
| | R911 | QRD167J-332 | 3.3K 1/6W CARBON RES. | |
| | R912 | QRD161J-473 | 47K 1/6W CARBON RES. | |
| | R913 | QRD161J-103 | 10K 1/6W CARBON RES. | |
| | R915 | QRD161J-823 | 82K 1/6W CARBON RES. | |
| | R916 | QRD161J-563 | 56K 1/6W CARBON RES. | |
| | R917 | QRD161J-683 | 68K 1/6W CARBON RES. | |
| | R918 | QRD161J-392 | 3.9K 1/6W CARBON RES. | |
| | R919 | QRD161J-122 | 1.2K 1/6W CARBON RES. | |
| | R920 | QRD161J-224 | 220K 1/6W CARBON RES. | |
| ⚠ | R921 | QRD14CJ-470SX | 47 1/4W UNF. CARBON R | |
| | R925 | QRD167J-562 | 5.6K 1/6W CARBON RES. | |
| | R926 | QRD167J-822 | 8.2K 1/6W CARBON RES. | |
| | R927 | QRD161J-103 | 10K 1/6W CARBON RES. | |
| ⚠ | R951 | QRD14CJ-220S | 22 1/4W UNF. CARBON R | |
| ⚠ | R961 | QRG022J-471A | 470 2W OXIDE METAL | |
| ⚠ | R962 | QRG022J-471A | 470 2W OXIDE METAL | |
| | VR511 | QVDA96W-E15DJ3 | 100K VARIABLE RES. | |
| | VR521 | QVDB96C-E15CJ3 | 100K VARIABLE RES. | |
| | VR531 | QVDB96C-E15CJ3 | 100K VARIABLE RES. | |
| | VR741 | QVPA601-501A | 500 TRIMMER RES. | |
| | VR742 | QVPA601-501A | 500 TRIMMER RES. | |
| | | OTHERS | | |
| | | EMW10626-002 | CIR. BOARD | |
| | | QWE881-16RR | VINYL WIRE | |
| | | QWE886-16RR | PIN WIRE | |
| | | SBSG3008CC | TAPPING SCREW | |
| | | SCOTCH TAPE | #214 19MM | |
| | J661 | EMN00YV-406AJ1 | PIN JACK | |
| | L051 | EQL0011-R45J1 | INDUCTOR | |
| | L581 | EQL0011-R45J1 | INDUCTOR | |
| | L771 | EQL0011-R45J1 | INDUCTOR | |
| | L772 | EQL0011-R45J1 | INDUCTOR | |
| | S901 | QSP6002-E02J2 | PUSH SWITCH | |
| ⚠ | T002 | ETP1000-41JA | POWER TRASNFORMER | |
| | AC001 | QMCA001-E02S | AC OUTLET | |
| | CN313 | EMV5163-005R | CONNECTOR | |
| | CN521 | EMV7163-011 | CONNECT TERMINAL | |
| | CN701 | EMV5163-010R | CONNECT TERMINAL | |
| | CN702 | EMV5163-010R | CONNECT TERMINAL | |
| | CN703 | EMV5163-005R | CONNECTOR | |
| | CN711 | EMV7163-010 | CONNECT TERMINAL | |
| | CN712 | EMV7163-010 | CONNECT TERMINAL | |
| | CN713 | EMV7163-005 | CONNECTOR | |
| | CN801 | VMC0163-013 | CONNECT TERMINAL | |
| | CN852 | EMV7145-003Z | SOCKET ASSY | |
| | CN853 | EMV7145-003Z | SOCKET ASSY | |
| | CN961 | EMV7145-003Z | SOCKET ASSY | |
| | EP491 | E409182-001SM | EARTH TERMINAL | |
| | EP501 | EMZ4002-001Z | EARTH PLATE | |
| | EP700 | EMZ4002-001Z | EARTH PLATE | |
| | FC101 | EMG7331-003Z | FUSE CLIP | |
| | FC102 | EMG7331-003Z | FUSE CLIP | |
| | FC810 | EMG7331-003Z | FUSE CLIP | |
| | FC811 | EMG7331-003Z | FUSE CLIP | |
| | FC812 | EMG7331-003Z | FUSE CLIP | |
| | FC813 | EMG7331-003Z | FUSE CLIP | |
| | FW801 | EWR3AD-13SS | FLAT WIRE ASSY | |
| | FW901 | EWR36D-40SS | CORD | |
| | HS003 | E70306-001 | HEAT SINK | |
| | LA101 | E61380-030 | FUSE LABEL | |
| | PW961 | EWT015-006 | TERMINAL WIRE | |
| | RY001 | ESK1D12-119J3 | RELAY | |
| | RY801 | ESK1D12-119J3 | RELAY | |
| | RY802 | ESK1D12-119J3 | RELAY | |
| | RY901 | ESK7D24-213R | RELAY | |
| | RY951 | ESK7D24-213R | RELAY | |
| | ST901 | FMMJ4002-001 | SPEAKER TERMINAL | |
| | ST951 | EMB90TV-601G | SPEAKER TERMINAL | |
| | TA001 | EMZ4001-001 | TAB | |
| | TA002 | EMZ4001-001 | TAB | |
| | TP001 | QMV5005-004K | PLUG ASSY | |

Electrcal Parts List(aENB-234)

| ⚠ | Item | Parts Number | Description | Area |
|---|---|---|---|---|
| | | I.C.S | | |
| | IC301 | NJM4580DD | I.C(MONO-ANALOG) | |
| | IC321 | TC9164N | I.C(DIGI-MOS) | |
| | IC331 | UPD4066BC | I.C(DIGI-MOS) | |
| | IC341 | BA15218N | I.C(MONO-ANALOG) | |
| | IC361 | BA15218N | I.C(MONO-ANALOG) | |
| | IC401 | MN171202K8F | I.C(MICRO-COMPUTER) | |
| | IC402 | SPS-420-1 | INFRARED DETECT UNIT | |
| | IC403 | PST600E-T | I.C(MONO-ANALOG) | |
| | IC475 | NJM79L12A | I.C(MONO-ANALOG) | |
| | IC601 | LA2785 | I.C(MONO-ANALOG) | |
| | IC641 | LV1011 | I.C(MONO-ANALOG) | |
| | IC661 | NJM2246D | I.C(MONO-ANALOG) | |
| | | DIODES | | |
| | D331 | MTZ8.2JC | ZENER DIODE | |
| | D332 | MTZ8.2JC | ZENER DIODE | |
| | D401 | 1SS133 | SI.DIODE | |
| | D402 | 1SS133 | SI.DIODE | |
| | D403 | 1SS133 | SI.DIODE | |
| | D404 | 1SS133 | SI.DIODE | |
| | D411 | SLR-342DCTE7 | L.E.D. | |
| | D412 | SLR-342DCTE7 | L.E.D. | |
| | D413 | SLR-342DCTE7 | L.E.D. | |
| | D414 | SLR-56VCTB7 | L.E.D. | |
| | D421 | 1SS133 | SI.DIODE | |
| | D422 | 1SS133 | SI.DIODE | |
| | D423 | 1SS133 | SI.DIODE | |
| | D424 | 1SS133 | SI.DIODE | |
| | D425 | 1SS133 | SI.DIODE | |
| | D426 | 1SS133 | SI.DIODE | |
| | D451 | 1SS133 | SI.DIODE | |
| | D471 | MTZ9.1JC | ZENER DIODE | |
| | D474 | MTZ12JC | ZENER DIODE | |
| | D851 | MTZ16JC | ZENER DIODE | |
| | D852 | 1SS133 | SI.DIODE | |
| | | TRANSISTORS | | |
| | Q331 | DTA144ES | DIGITAL TRANSISTOR | |
| | Q332 | DTC144ES | DIGITAL TRANSISTOR | |
| | Q351 | 2SC2001(L,K) | SI.TRANSISTOR | |
| | Q352 | 2SC2001(L,K) | SI.TRANSISTOR | |
| | Q361 | 2SC2001(L,K) | SI.TRANSISTOR | |
| | Q362 | 2SC2001(L,K) | SI.TRANSISTOR | |
| | Q371 | DTA144ES | DIGITAL TRANSISTOR | |
| | Q401 | DTC114YS | DIGITAL TRANSISTOR | |
| | Q402 | DTC114YS | DIGITAL TRANSISTOR | |
| | Q403 | DTC114YS | DIGITAL TRANSISTOR | |
| | Q404 | DTC114YS | DIGITAL TRANSISTOR | |
| | Q405 | DTC114YS | DIGITAL TRANSISTOR | |
| | Q411 | DTC114YS | DIGITAL TRANSISTOR | |
| | Q412 | DTC114YS | DIGITAL TRANSISTOR | |
| | Q451 | DTC114TN | DIGITAL TRANSISTOR | |
| | Q452 | DTC144WS | DIGITAL TRANSISTOR | |
| | Q507 | 2SC2001(L,K) | SI.TRANSISTOR | |
| | Q508 | 2SC2001(L,K) | SI.TRANSISTOR | |
| | Q509 | DTA144ES | DIGITAL TRANSISTOR | |
| | Q661 | 2SC458(C,D) | SI.TRANSISTOR | |
| | Q662 | 2SC458(C,D) | SI.TRANSISTOR | |
| | Q663 | 2SA933S(RS) | SI.TRANSISTOR | |
| | Q664 | 2SA933S(RS) | SI.TRANSISTOR | |
| | Q681 | DTC143ES | DIGITAL TRANSISTOR | |
| | Q852 | 2SD2061(F,G) | SI.TRANSISTOR | |
| | | CAPACITORS | | |
| | C300 | QCHB1EZ-223 | 0.022MF 25V CER.CAP. | |
| | C301 | QETB1HM-475E | 4.7MF 50V E.CAP. | |
| | C302 | QETB1HM-475E | 4.7MF 50V E.CAP. | |
| | C303 | QCBB1HK-101Y | 100PF 50V CER.CAP. | |
| | C304 | QCBB1HK-101Y | 100PF 50V CER.CAP. | |
| | C305 | QFN81HK-182 | 1800PF 50V METAL.MYLAR | |
| | C306 | QFN81HK-182 | 1800PF 50V METAL.MYLAR | |
| | C307 | QFN31HK-682Z | 6800PF 50V MYLAR CAP. | |
| | C308 | QFN31HK-682Z | 6800PF 50V MYLAR CAP. | |
| | C309 | QCBB1HK-101Y | 100PF 50V CER.CAP. | |
| | C310 | QCBB1HK-101Y | 100PF 50V CER.CAP. | |
| | C311 | QETB1HM-475E | 4.7MF 50V E.CAP. | |
| | C312 | QETB1HM-475E | 4.7MF 50V E.CAP. | |
| | C313 | QETB1AM-107 | 100MF 10V AL E.CAP. | |
| | C314 | QETB1AM-107 | 100MF 10V AL E.CAP. | |
| | C315 | QETB1CM-476 | 47MF 16V AL E.CAP. | |

| ⚠ | Item | Parts Number | Description | Area |
|---|---|---|---|---|
| | C316 | QETB1CM-476 | 47MF 16V AL E.CAP. | |
| | C319 | QCBB1HK-331Y | 330PF 50V CER.CAP. | |
| | C320 | QCBB1HK-331Y | 330PF 50V CER.CAP. | |
| | C323 | QCHB1EZ-223 | 0.022MF 25V CER.CAP. | |
| | C324 | QCHB1EZ-223 | 0.022MF 25V CER.CAP. | |
| | C325 | QCBB1HK-221Y | 220PF 50V CER.CAP. | |
| | C331 | QETB1EM-226N | 22MF 25V E.CAP. | |
| | C332 | QETB1EM-226N | 22MF 25V E.CAP. | |
| | C339 | QETB1HM-475E | 4.7MF 50V E.CAP. | |
| | C341 | QETB1HM-106 | 10MF 50V E.CAP. | |
| | C342 | QETB1HM-106 | 10MF 50V E.CAP. | |
| | C351 | QETB1HM-225 | 2.2MF 50V AL E.CAP. | |
| | C352 | QETB1HM-225 | 2.2MF 50V AL E.CAP. | |
| | C363 | QETB1HM-225 | 2.2MF 50V AL E.CAP. | |
| | C364 | QETB1HM-225 | 2.2MF 50V AL E.CAP. | |
| | C375 | QETB1HM-475E | 4.7MF 50V E.CAP. | |
| | C381 | QCBB1HK-331Y | 330PF 50V CER.CAP. | |
| | C382 | QCBB1HK-331Y | 330PF 50V CER.CAP. | |
| | C385 | QCBB1HK-331Y | 330PF 50V CER.CAP. | |
| | C386 | QCBB1HK-331Y | 330PF 50V CER.CAP. | |
| | C387 | QCBB1HK-331Y | 330PF 50V CER.CAP. | |
| | C388 | QCBB1HK-331Y | 330PF 50V CER.CAP. | |
| | C389 | QCBB1HK-331Y | 330PF 50V CER.CAP. | |
| | C390 | QCBB1HK-331Y | 330PF 50V CER.CAP. | |
| | C393 | QCBB1HK-331Y | 330PF 50V CER.CAP. | |
| | C394 | QCBB1HK-331Y | 330PF 50V CER.CAP. | |
| | C395 | QCBB1HK-331Y | 330PF 50V CER.CAP. | |
| | C396 | QCBB1HK-331Y | 330PF 50V CER.CAP. | |
| | C397 | QCBB1HK-331Y | 330PF 50V CER.CAP. | |
| | C398 | QCBB1HK-331Y | 330PF 50V CER.CAP. | |
| | C401 | QETB1AM-227 | 220MF 10V E.CAP. | |
| | C402 | QCZ0202-155 | 1.5MF 25V CER.RES. | |
| | C403 | QCHB1EZ-223 | 0.022MF 25V CER.CAP. | |
| | C404 | QETB1HM-225 | 2.2MF 50V AL E.CAP. | |
| | C409 | QEAD0HZ-10AZM | AL E.CAP. | |
| | C410 | QETB1VM-227 | 220MF 35V AL E.CAP. | |
| | C451 | QCBB1HK-331Y | 330PF 50V CER.CAP. | |
| | C474 | QETB1EM-107 | 100MF 25V AL E.CAP. | |
| | C475 | QETB1EM-107 | 100MF 25V AL E.CAP. | |
| | C476 | QEK51HM-334G | 0.33MF 50V AL E.CAP. | |
| | C478 | QETB1HM-105 | 1MF 50V AL E.CAP. | |
| | C483 | QCVB1CM-103Y | 0.01MF 16V CER.CAP. | |
| | C491 | QCBB1HK-331Y | 330PF 50V CER.CAP. | |
| | C501 | QETB1HM-226E | 22MF 50V E.CAP. | |
| | C507 | QFN81HJ-333 | 0.033MF 50V MYLAR CAP. | |
| | C508 | QFN81HJ-333 | 0.033MF 50V MYLAR CAP. | |
| | C514 | QCF21HP-473A | 0.047MF 50V CER.CAP. | |
| | C601 | QETB1HM-105 | 1MF 50V AL E.CAP. | |
| | C602 | QETB1HM-105 | 1MF 50V AL E.CAP. | |
| | C603 | QFLB1HJ-104 | 0.1MF 50V MYLAR CAP. | |
| | C604 | QFLB1HJ-104 | 0.1MF 50V MYLAR CAP. | |
| | C605 | QFLB1HJ-104 | 0.1MF 50V MYLAR CAP. | |
| | C606 | QFLB1HJ-104 | 0.1MF 50V MYLAR CAP. | |
| | C607 | QETB1HM-474 | 0.47MF 50V E.CAP. | |
| | C608 | QETB1HM-474 | 0.47MF 50V E.CAP. | |
| | C609 | QETB1HM-475E | 4.7MF 50V E.CAP. | |
| | C610 | QETB1HM-475E | 4.7MF 50V E.CAP. | |
| | C611 | QETB1HM-474 | 0.47MF 50V E.CAP. | |
| | C612 | QETB1HM-474 | 0.47MF 50V E.CAP. | |
| | C613 | QETB1HM-475E | 4.7MF 50V E.CAP. | |
| | C614 | QETB1HM-475E | 4.7MF 50V E.CAP. | |
| | C615 | QFV81HJ-154 | 0.15MF 50V THIN FILM CA | |
| | C616 | QFV81HJ-154 | 0.15MF 50V THIN FILM CA | |
| | C617 | QETB1HM-335 | 3.3MF 50V AL E.CAP. | |
| | C618 | QETB1HM-335 | 3.3MF 50V AL E.CAP. | |
| | C619 | QFV81HJ-154 | 0.15MF 50V THIN FILM CA | |
| | C620 | QFV81HJ-154 | 0.15MF 50V THIN FILM CA | |
| | C621 | QFN81HJ-223 | 0.022MF 50V METAL.MYLAR | |
| | C622 | QFN81HJ-473 | 0.047MF 50V METAL.MYLAR | |
| | C623 | QETB1EM-227 | 220MF 25V AL E.CAP. | |
| | C624 | QETB1EM-106 | 10MF 25V AL E.CAP. | |
| | C625 | QETB1EM-106 | 10MF 25V AL E.CAP. | |
| | C626 | QETB1EM-106 | 10MF 25V AL E.CAP. | |
| | C627 | QETB1EM-106 | 10MF 25V AL E.CAP. | |
| | C628 | QETB1EM-227 | 220MF 25V AL E.CAP. | |
| | C631 | QETB1EM-476 | 47MF 25V AL E.CAP. | |
| | C632 | QFV71HJ-474ZM | 0.47MF 50V THIN FILM CA | |
| | C633 | QCS31HJ-681Z | 680PF 50V CER.CAP. | |

## Electrcal Parts List(aENB-234)

| ⚠ | Item | Parts Number | Description | Area |
|---|---|---|---|---|
| | C634 | QETB1EM-227 | 220MF 25V AL E.CAP. | |
| | C641 | QETB1EM-106 | 10MF 25V AL E.CAP. | |
| | C642 | QETB1EM-227 | 220MF 25V AL E.CAP. | |
| | C643 | QETB1HM-225 | 2.2MF 50V AL E.CAP. | |
| | C645 | QFN81HJ-333 | 0.033MF 50V MYLAR CAP. | |
| | C646 | QFN81HJ-152 | 1500PF 50V METAL.MYLAR | |
| | C647 | QFN81HJ-333 | 0.033MF 50V MYLAR CAP. | |
| | C648 | QETB1HM-105 | 1MF 50V AL E.CAP. | |
| | C650 | QETB1EM-227 | 220MF 25V AL E.CAP. | |
| | C651 | QCSB1HJ-330Y | 33PF 50V CER.CAP. | |
| | C652 | QCSB1HJ-330Y | 33PF 50V CER.CAP. | |
| | C653 | QCHB1EZ-223 | 0.022MF 25V CER.CAP. | |
| | C655 | QETB1HM-225 | 2.2MF 50V AL E.CAP. | |
| | C656 | QETB1HM-225 | 2.2MF 50V AL E.CAP. | |
| | C661 | QETB1CM-107 | 100MF 16V AL E.CAP. | |
| | C662 | QCHB1EZ-223 | 0.022MF 25V CER.CAP. | |
| | C663 | QCHB1EZ-223 | 0.022MF 25V CER.CAP. | |
| | C853 | QETB1EM-107 | 100MF 25V AL E.CAP. | |
| | C961 | QCBB1HK-331Y | 330PF 50V CER.CAP. | |
| | C962 | QCBB1HK-331Y | 330PF 50V CER.CAP. | |
| | | RESISTORS | | |
| | R301 | QRD161J-222 | 2.2K 1/6W CARBON RES. | |
| | R302 | QRD161J-222 | 2.2K 1/6W CARBON RES. | |
| | R303 | QRD161J-473 | 47K 1/6W CARBON RES. | |
| | R304 | QRD161J-473 | 47K 1/6W CARBON RES. | |
| | R305 | QRD161J-621 | 620 1/6W CARBON RES. | |
| | R306 | QRD161J-621 | 620 1/6W CARBON RES. | |
| | R307 | QRD161J-393 | 39K 1/6W CARBON RES. | |
| | R308 | QRD161J-393 | 39K 1/6W CARBON RES. | |
| | R309 | QRD161J-474 | 470K 1/6W CARBON RES. | |
| | R310 | QRD161J-474 | 470K 1/6W CARBON RES. | |
| | R311 | QRD161J-104 | 100K 1/6W CARBON RES. | |
| | R312 | QRD161J-104 | 100K 1/6W CARBON RES. | |
| | R313 | QRD161J-331 | 330 1/6W CARBON RES. | |
| | R314 | QRD161J-331 | 330 1/6W CARBON RES. | |
| | R325 | QRD161J-102 | 1K 1/6W CARBON RES. | |
| | R331 | QRD161J-821 | 820 1/6W CARBON RES. | |
| | R332 | QRD161J-821 | 820 1/6W CARBON RES. | |
| | R333 | QRD161J-202 | 2K 1/6W CARBON RES. | |
| | R334 | QRD161J-103 | 10K 1/6W CARBON RES. | |
| | R341 | QRD161J-104 | 100K 1/6W CARBON RES. | |
| | R342 | QRD161J-104 | 100K 1/6W CARBON RES. | |
| | R343 | QRD161J-104 | 100K 1/6W CARBON RES. | |
| | R344 | QRD161J-104 | 100K 1/6W CARBON RES. | |
| | R351 | QRD161J-473 | 47K 1/6W CARBON RES. | |
| | R352 | QRD161J-473 | 47K 1/6W CARBON RES. | |
| | R353 | QRD161J-104 | 100K 1/6W CARBON RES. | |
| | R354 | QRD161J-104 | 100K 1/6W CARBON RES. | |
| | R355 | QRD161J-102 | 1K 1/6W CARBON RES. | |
| | R356 | QRD161J-102 | 1K 1/6W CARBON RES. | |
| | R357 | QRD161J-103 | 10K 1/6W CARBON RES. | |
| | R358 | QRD161J-103 | 10K 1/6W CARBON RES. | |
| | R361 | QRD161J-104 | 100K 1/6W CARBON RES. | |
| | R362 | QRD161J-104 | 100K 1/6W CARBON RES. | |
| | R363 | QRD161J-243 | 24K 1/6W CARBON RES. | |
| | R364 | QRD161J-243 | 24K 1/6W CARBON RES. | |
| | R365 | QRD161J-103 | 10K 1/6W CARBON RES. | |
| | R366 | QRD161J-103 | 10K 1/6W CARBON RES. | |
| | R369 | QRD161J-104 | 100K 1/6W CARBON RES. | |
| | R370 | QRD161J-104 | 100K 1/6W CARBON RES. | |
| | R371 | QRD161J-102 | 1K 1/6W CARBON RES. | |
| | R372 | QRD161J-102 | 1K 1/6W CARBON RES. | |
| | R373 | QRD161J-222 | 2.2K 1/6W CARBON RES. | |
| | R374 | QRD161J-222 | 2.2K 1/6W CARBON RES. | |
| | R375 | QRD161J-102 | 1K 1/6W CARBON RES. | |
| | R381 | QRD161J-471 | 470 1/6W CARBON RES. | |
| | R382 | QRD161J-471 | 470 1/6W CARBON RES. | |
| | R385 | QRD161J-471 | 470 1/6W CARBON RES. | |
| | R386 | QRD161J-471 | 470 1/6W CARBON RES. | |
| | R387 | QRD161J-471 | 470 1/6W CARBON RES. | |
| | R388 | QRD161J-471 | 470 1/6W CARBON RES. | |
| | R389 | QRD161J-471 | 470 1/6W CARBON RES. | |
| | R390 | QRD161J-471 | 470 1/6W CARBON RES. | |
| | R393 | QRD161J-471 | 470 1/6W CARBON RES. | |
| | R394 | QRD161J-471 | 470 1/6W CARBON RES. | |
| | R395 | QRD161J-471 | 470 1/6W CARBON RES. | |
| | R396 | QRD161J-471 | 470 1/6W CARBON RES. | |
| | R397 | QRD161J-471 | 470 1/6W CARBON RES. | |

| ⚠ | Item | Parts Number | Description | Area |
|---|---|---|---|---|
| | R398 | QRD161J-471 | 470 1/6W CARBON RES. | |
| | R401 | QRD161J-104 | 100K 1/6W CARBON RES. | |
| | R402 | QRD161J-104 | 100K 1/6W CARBON RES. | |
| | R409 | QRD161J-331 | 330 1/6W CARBON RES. | |
| | R410 | QRD167J-223 | 22K 1/6W CARBON RES. | |
| | R411 | QRD161J-221 | 220 1/6W CARBON RES. | |
| | R412 | QRD161J-221 | 220 1/6W CARBON RES. | |
| | R413 | QRD161J-221 | 220 1/6W CARBON RES. | |
| | R414 | QRD167J-431 | 430 1/6W CARBON RES. | |
| | R416 | QRD161J-472 | 4.7K 1/6W CARBON RES. | |
| | R417 | QRD161J-103 | 10K 1/6W CARBON RES. | |
| | R418 | QRD161J-472 | 4.7K 1/6W CARBON RES. | |
| | R421 | QRD161J-221 | 220 1/6W CARBON RES. | |
| | R422 | QRD161J-221 | 220 1/6W CARBON RES. | |
| | R423 | QRD161J-221 | 220 1/6W CARBON RES. | |
| | R424 | QRD161J-221 | 220 1/6W CARBON RES. | |
| | R425 | QRD161J-221 | 220 1/6W CARBON RES. | |
| | R426 | QRD161J-221 | 220 1/6W CARBON RES. | |
| | R427 | QRD161J-221 | 220 1/6W CARBON RES. | |
| | R428 | QRD161J-221 | 220 1/6W CARBON RES. | |
| | R429 | QRD161J-221 | 220 1/6W CARBON RES. | |
| | R430 | QRD161J-221 | 220 1/6W CARBON RES. | |
| | R431 | QRD161J-221 | 220 1/6W CARBON RES. | |
| | R432 | QRD161J-221 | 220 1/6W CARBON RES. | |
| | R433 | QRD161J-221 | 220 1/6W CARBON RES. | |
| | R434 | QRD161J-221 | 220 1/6W CARBON RES. | |
| | R435 | QRD161J-221 | 220 1/6W CARBON RES. | |
| | R436 | QRD161J-221 | 220 1/6W CARBON RES. | |
| | R437 | QRD161J-221 | 220 1/6W CARBON RES. | |
| | R438 | QRD161J-221 | 220 1/6W CARBON RES. | |
| | R439 | QRD161J-221 | 220 1/6W CARBON RES. | |
| | R440 | QRD161J-221 | 220 1/6W CARBON RES. | |
| | R441 | QRD161J-221 | 220 1/6W CARBON RES. | |
| | R451 | QRD161J-103 | 10K 1/6W CARBON RES. | |
| | R454 | QRD161J-471 | 470 1/6W CARBON RES. | |
| ⚠ | R471 | QRG022J-680AM | 68 2W OXIDE METAL | |
| | R474 | QRG022J-180AF | 18 2W OXIDE METAL | |
| | R491 | QRD161J-221 | 220 1/6W CARBON RES. | |
| | R492 | QRD161J-471 | 470 1/6W CARBON RES. | |
| | R501 | QRD161J-202 | 2K 1/6W CARBON RES. | |
| | R503 | QRD167J-223 | 22K 1/6W CARBON RES. | |
| | R504 | QRD167J-223 | 22K 1/6W CARBON RES. | |
| | R505 | QRD167J-223 | 22K 1/6W CARBON RES. | |
| | R506 | QRD167J-223 | 22K 1/6W CARBON RES. | |
| | R507 | QRD161J-103 | 10K 1/6W CARBON RES. | |
| | R508 | QRD161J-103 | 10K 1/6W CARBON RES. | |
| | R641 | QRD161J-102 | 1K 1/6W CARBON RES. | |
| | R642 | QRD161J-102 | 1K 1/6W CARBON RES. | |
| | R643 | QRD161J-203 | 20K 1/6W CARBON RES. | |
| | R644 | QRD161J-393 | 39K 1/6W CARBON RES. | |
| | R651 | QRD161J-105 | 1M 1/6W CARBON RES. | |
| | R669 | QRD167J-152 | 1.5K 1/6W CARBON RES. | |
| | R671 | QRD167J-151 | 150 1/6W CARBON RES. | |
| | R672 | QRD167J-151 | 150 1/6W CARBON RES. | |
| | R675 | QRD161J-271 | 270 1/6W CARBON RES. | |
| | R676 | QRD161J-271 | 270 1/6W CARBON RES. | |
| | R683 | QRD167J-152 | 1.5K 1/6W CARBON RES. | |
| | RA401 | QRB049J-103 | 10K 1/10WRES. | |
| | VR551 | QVDC94Z-E15FJ5 | 100K VARIABLE RE | |
| | | OTHERS | | |
| | | EMW10625-003 | PRINTED BOARD | |
| | | SBSG3008CC | TAPPING SCREW | |
| | J301 | EMN00TV-422AJ2 | PIN JACK | |
| | J302 | EMN00TV-422AJ2 | PIN JACK | |
| | J304 | EMN00TV-420AJ2 | PIN JACK | |
| | J305 | EMN00TV-420AJ2 | PIN JACK | |
| | J491 | QMS3501-021 | PIN JACK | |
| | J961 | QMS6022-V01 | MICROPHONE JACK | |
| | S401 | ESP0001-023M | TACT SWITCH | |
| | S402 | ESP0001-023M | TACT SWITCH | |
| | S403 | ESP0001-023M | TACT SWITCH | |
| | S404 | ESP0001-023M | TACT SWITCH | |
| | S405 | ESP0001-023M | TACT SWITCH | |
| | S406 | ESP0001-023M | TACT SWITCH | |
| | S407 | ESP0001-023M | TACT SWITCH | |
| | S408 | ESP0001-023M | TACT SWITCH | |
| | S409 | ESP0001-023M | TACT SWITCH | |
| | S410 | ESP0001-023M | TACT SWITCH | |

Electrcal Parts List(aENB-234)

| ⚠ | Item | Parts Number | Description | Area |
|---|---|---|---|---|
| | S411 | ESP0001-023M | TACT SWITCH | |
| | S412 | ESP0001-023M | TACT SWITCH | |
| | S413 | ESP0001-023M | TACT SWITCH | |
| | S414 | ESP0001-023M | TACT SWITCH | |
| | S415 | ESP0001-023M | TACT SWITCH | |
| | S416 | ESP0001-023M | TACT SWITCH | |
| | S417 | ESP0001-023M | TACT SWITCH | |
| | S418 | ESP0001-023M | TACT SWITCH | |
| | S419 | ESP0001-023M | TACT SWITCH | |
| | S420 | ESP0001-023M | TACT SWITCH | |
| | S421 | ESP0001-023M | TACT SWITCH | |
| | S422 | ESP0001-023M | TACT SWITCH | |
| | S423 | ESP0001-023M | TACT SWITCH | |
| | S424 | ESP0001-023M | TACT SWITCH | |
| | X401 | ECXP6R0-001ZA | CRYSTAL | |
| | X641 | ECXP8R0-001Z | CRYSTAL | |
| | CN301 | EMV7163-012 | CONNECT TERMINAL | |
| | CN302 | EMV7163-011 | CONNECT TERMINAL | |
| | CN303 | EMV7163-005 | CONNECTOR | |
| | CN312 | EMV5163-011R | CONNECT TERMINAL | |
| | CN401 | VMC0194-P04 | CONNECT TERMINAL | |
| | CN402 | VMC0194-S06 | CONNECT TERMINAL | |
| | CN403 | VMC0163-R17 | CONNECT TERMINAL | |
| | CN411 | VMC0194-S04 | CONNECT TERMINAL | |
| | CN412 | VMC0194-P06 | CONNECT TERMINAL | |
| | CN413 | EMV7123-017 | CONNECTOR | |
| | CN511 | EMV5163-011R | CONNECT TERMINAL | |
| | CN601 | EWS296-0125 | SOCKET WIRE ASSY | |
| | CN611 | EMV5109-006A | CONNECT TERMINAL | |
| | CN811 | VMC0163-R13 | CONNECT TERMINAL | |
| | DI401 | ELU0001-144 | FLUORESCENT DISPLAY TUBE | |
| | FH001 | E308270-002SM | FL HOLDER | |
| | FH002 | E308270-002SM | FL HOLDER | |
| | FS483 | E3400-431 | FELT SPACER | |
| | FW851 | EWR36D-35LS | FLAT WIRE ASSY | |
| | FW961 | EWR33D-35LS | FLAT WIRE ASSY | |
| | HS002 | E70945-H40B | HEAT SINK | |
| | SP001 | E3400-444 | FELT SPACER | |
| | SP002 | E3400-444 | FELT SPACER | |

## Electrcal Parts List(ENA-172)

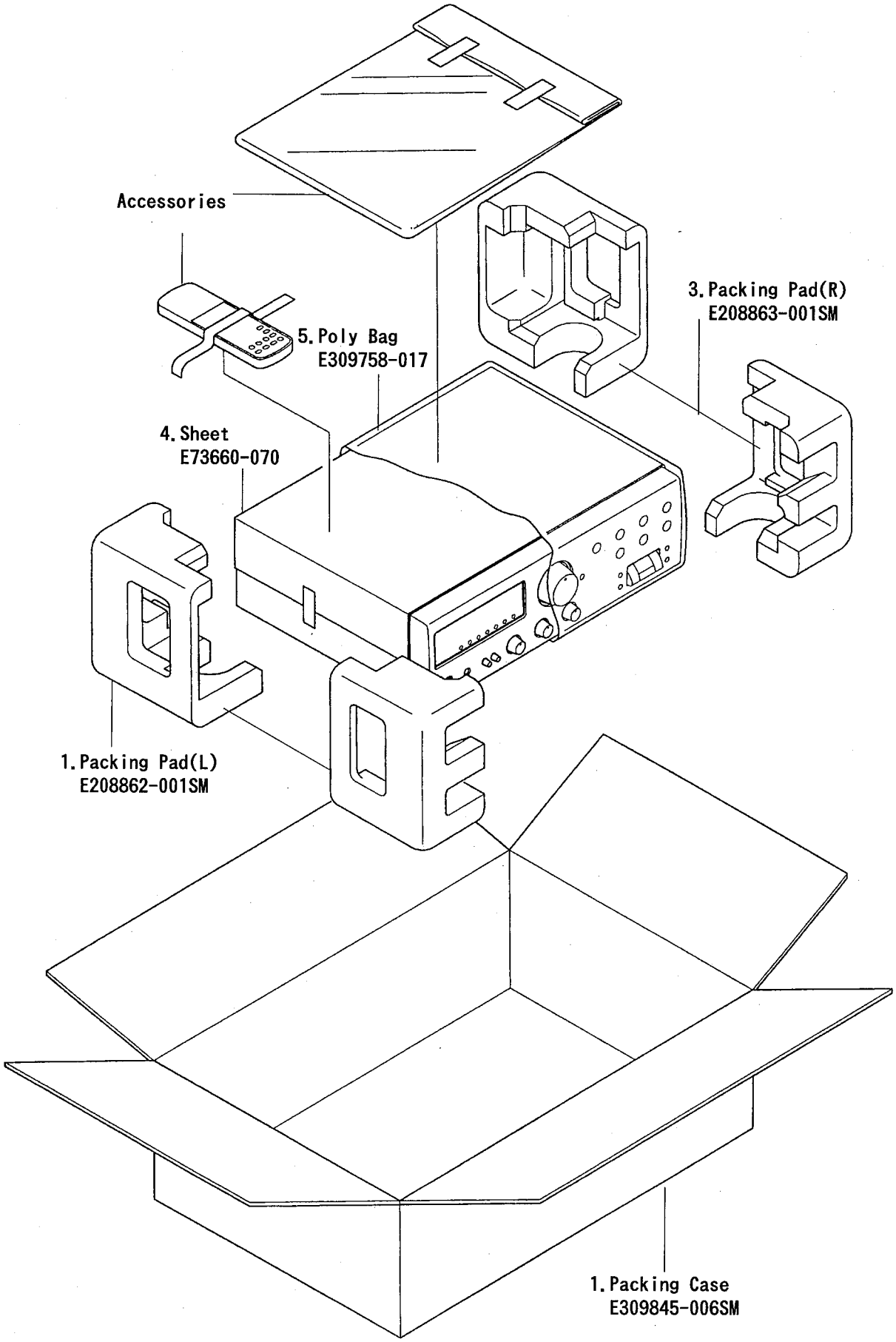
| ⚠ | Item | Parts Number | Description | Area |
|---|---|---|---|---|
| | | I.C.S | | |
| | IC102 | LC72131 | I.C(M) | |
| | IC104 | LA1266A | I.C(MONO-ANALOG) | |
| | IC105 | LA3401 | I.C(MONO-ANALOG) | |
| | | DIODES | | |
| | D101 | 1SS133 | SI.DIODE | |
| | D106 | 1SS133 | SI.DIODE | |
| | D111 | 1SS133 | SI.DIODE | |
| | D112 | 1SS133 | SI.DIODE | |
| | D120 | 1SS133 | SI.DIODE | |
| | D121 | 1SS133 | SI.DIODE | |
| | D122 | 1SS133 | SI.DIODE | |
| | D123 | 1SS133 | SI.DIODE | |
| | VC105 | SVC342(L) | VARI-CAPA DIODE | |
| | | TRANSISTORS | | |
| | Q103 | 2SC461 | SI.TRANSISTOR | |
| | Q107 | 2SC535 | SI.TRANSISTOR | |
| | Q108 | 2SC461 | SI.TRANSISTOR | |
| | Q112 | 2SK301(P,Q) | F.E.T. | |
| | Q123 | DTA144ES | DIGITAL TRANSISTOR | |
| | Q124 | DTA144ES | DIGITAL TRANSISTOR | |
| | Q127 | DTC144ES | DIGITAL TRANSISTOR | |
| | | CAPACITORS | | |
| | C101 | QCF21HP-223A | 0.022MF 50V CER.CAP. | |
| | C122 | QCF21HP-223A | 0.022MF 50V CER.CAP. | |
| | C126 | QCF21HP-223A | 0.022MF 50V CER.CAP. | |
| | C132 | QCS31HJ-561Z | 560PF 50V CER.CAP. | |
| | C133 | QCHB1EZ-223 | 0.022MF 25V CER.CAP. | |
| | C134 | QETB1EM-106 | 10MF 25V AL E.CAP. | |
| | C135 | QCC21EM-223 | 0.022MF 25V CER.CAP. | |
| | C136 | QCT25CH-180Z | 18PF 50V CER.CAP. | |
| | C137 | QCT26CH-221 | 220PF 50V CER.CAP. | |
| | C138 | QCT26CH-241 | 240PF 50V CER.CAP. | |
| | C149 | QCHB1EZ-223 | 0.022MF 25V CER.CAP. | |
| | C150 | QCHB1EZ-223 | 0.022MF 25V CER.CAP. | |
| | C151 | QCF21HP-223A | 0.022MF 50V CER.CAP. | |
| | C152 | QCF21HP-223A | 0.022MF 50V CER.CAP. | |
| | C153 | QCC21EM-223 | 0.022MF 25V CER.CAP. | |
| | C154 | QCF21HP-223A | 0.022MF 50V CER.CAP. | |
| | C155 | QCHB1EZ-223 | 0.022MF 25V CER.CAP. | |
| | C156 | QETB1CM-227 | 220MF 16V AL E.CAP. | |
| | C157 | QETB1HM-474 | 0.47MF 50V E.CAP. | |
| | C158 | QCBB1HK-101Y | 100PF 50V CER.CAP. | |
| | C159 | QCBB1HK-101Y | 100PF 50V CER.CAP. | |
| | C160 | QCBB1HK-221Y | 220PF 50V CER.CAP. | |
| | C161 | QCHB1EZ-223 | 0.022MF 25V CER.CAP. | |
| | C162 | QETB1EM-106 | 10MF 25V AL E.CAP. | |
| | C163 | QFLB1HJ-102 | 1000PF 50V MYLAR CAP. | |
| | C164 | QCHB1EZ-223 | 0.022MF 25V CER.CAP. | |
| | C165 | QETB1HM-474 | 0.47MF 50V E.CAP. | |
| | C166 | QETB1HM-225 | 2.2MF 50V AL E.CAP. | |
| | C167 | QETB1HM-225 | 2.2MF 50V AL E.CAP. | |
| | C168 | QEK51HM-475 | 4.7MF 50V AL E.CAP. | |
| | C169 | QCF21HP-223A | 0.022MF 50V CER.CAP. | |
| | C170 | QCHB1EZ-223 | 0.022MF 25V CER.CAP. | |
| | C171 | QEK51EM-106 | 10MF 25V AL E.CAP. | |
| | C172 | QCVB1CM-103Y | 0.01MF 16V CER.CAP. | |
| | C173 | QFLB1HJ-393 | 0.039MF 50V MYLAR CAP. | |
| | C174 | QFLB1HJ-473 | 0.047MF 50V MYLAR CAP. | |
| | C175 | QETB1EM-106 | 10MF 25V AL E.CAP. | |
| | C176 | QCY31HK-102Z | 1000PF 50V CER.CAP. | |
| | C177 | QCS31HJ-821Z | 820PF 50V CER.CAP. | |
| | C178 | QCS31HJ-821Z | 820PF 50V CER.CAP. | |
| | C179 | QETB1HM-225 | 2.2MF 50V AL E.CAP. | |
| | C180 | QETB1HM-225 | 2.2MF 50V AL E.CAP. | |
| | C181 | QETB1EM-106 | 10MF 25V AL E.CAP. | |
| | C182 | QETB1HM-225 | 2.2MF 50V AL E.CAP. | |
| | C183 | QETB1HM-105 | 1MF 50V AL E.CAP. | |
| | C184 | QETB1HM-105 | 1MF 50V AL E.CAP. | |
| | C185 | QEK51HM-225G | 2.2MF 50V AL E.CAP. | |
| | C186 | QETB1HM-474 | 0.47MF 50V E.CAP. | |
| | C191 | QETB1HM-475E | 4.7MF 50V E.CAP. | |
| | C192 | QCC21EM-473 | 0.047MF 25V CER.CAP. | |
| | C193 | QCS21HJ-180A | 18PF 50V CER.CAP. | |
| | C194 | QCS21HJ-180A | 18PF 50V CER.CAP. | |
| | C195 | QFV71HJ-474ZM | 0.47MF 50V THIN FILM CA | |
| | C196 | QCY31HK-102Z | 1000PF 50V CER.CAP. | |
| | C197 | QCF21HP-223A | 0.022MF 50V CER.CAP. | |

| ⚠ | Item | Parts Number | Description | Area |
|---|---|---|---|---|
| | C198 | QCF21HP-103A | 0.01MF 50V CER.CAP. | |
| | C199 | QCVB1CM-103Y | 0.01MF 16V CER.CAP. | |
| | C222 | QETB1CM-477M | 470MF 16V E.CAP. | |
| | C229 | QETB1CM-227 | 220MF 16V AL E.CAP. | |
| | TC105 | ENZ1003-006 | 00MF TRIMMER CAPA | |
| | | RESISTORS | | |
| | R101 | QRD161J-103 | 10K 1/6W CARBON RES. | |
| | R102 | QRD161J-103 | 10K 1/6W CARBON RES. | |
| | R103 | QRD161J-103 | 10K 1/6W CARBON RES. | |
| | R105 | QRD161J-103 | 10K 1/6W CARBON RES. | |
| | R108 | QRD161J-103 | 10K 1/6W CARBON RES. | |
| ⚠ | R109 | QRD14CJ-680SX | 68 1/4W UNF.CARBON R | |
| | R118 | QRD167J-332 | 3.3K 1/6W CARBON RES. | |
| | R119 | QRD161J-221 | 220 1/6W CARBON RES. | |
| | R121 | QRD161J-391 | 390 1/6W CARBON RES. | |
| | R122 | QRD167J-272 | 2.7K 1/6W CARBON RES. | |
| | R123 | QRD161J-102 | 1K 1/6W CARBON RES. | |
| | R124 | QRD161J-681 | 680 1/6W CARBON RES. | |
| | R125 | QRD167J-332 | 3.3K 1/6W CARBON RES. | |
| | R126 | QRD161J-221 | 220 1/6W CARBON RES. | |
| | R131 | QRD161J-331 | 330 1/6W CARBON RES. | |
| | R132 | QRD161J-103 | 10K 1/6W CARBON RES. | |
| | R133 | QRD161J-473 | 47K 1/6W CARBON RES. | |
| | R135 | QRD161J-470 | 47 1/6W CARBON RES. | |
| | R136 | QRD161J-103 | 10K 1/6W CARBON RES. | |
| | R146 | QRD167J-560 | 56 1/6W CARBON RES. | |
| | R147 | QRD161J-103 | 10K 1/6W CARBON RES. | |
| | R148 | QRD161J-103 | 10K 1/6W CARBON RES. | |
| | R149 | QRD161J-273 | 27K 1/6W CARBON RES. | |
| | R150 | QRD161J-103 | 10K 1/6W CARBON RES. | |
| | R151 | QRD161J-222 | 2.2K 1/6W CARBON RES. | |
| | R153 | QRD161J-103 | 10K 1/6W CARBON RES. | |
| | R154 | QRD161J-103 | 10K 1/6W CARBON RES. | |
| | R155 | QRD167J-562 | 5.6K 1/6W CARBON RES. | |
| | R156 | QRD167J-822 | 8.2K 1/6W CARBON RES. | |
| | R157 | QRD161J-103 | 10K 1/6W CARBON RES. | |
| | R158 | QRD161J-183 | 18K 1/6W CARBON RES. | |
| | R159 | QRD161J-561 | 560 1/6W CARBON RES. | |
| | R160 | QRD167J-562 | 5.6K 1/6W CARBON RES. | |
| | R161 | QRD161J-823 | 82K 1/6W CARBON RES. | |
| | R162 | QRD161J-823 | 82K 1/6W CARBON RES. | |
| | R163 | QRD161J-472 | 4.7K 1/6W CARBON RES. | |
| | R164 | QRD161J-472 | 4.7K 1/6W CARBON RES. | |
| | R165 | QRD161J-184 | 180K 1/6W CARBON RES. | |
| | R166 | QRD161J-184 | 180K 1/6W CARBON RES. | |
| | R167 | QRD161J-393 | 39K 1/6W CARBON RES. | |
| | R168 | QRD161J-103 | 10K 1/6W CARBON RES. | |
| | R169 | QRD161J-103 | 10K 1/6W CARBON RES. | |
| | R171 | QRD167J-682 | 6.8K 1/6W CARBON RES. | |
| | R172 | QRD167J-682 | 6.8K 1/6W CARBON RES. | |
| | R180 | QRD161J-103 | 10K 1/6W CARBON RES. | |
| | R181 | QRD161J-222 | 2.2K 1/6W CARBON RES. | |
| | R190 | QRD161J-103 | 10K 1/6W CARBON RES. | |
| | R191 | QRD167J-562 | 5.6K 1/6W CARBON RES. | |
| | R194 | QRD161J-103 | 10K 1/6W CARBON RES. | |
| | R195 | QRD161J-473 | 47K 1/6W CARBON RES. | |
| | R197 | QRD161J-222 | 2.2K 1/6W CARBON RES. | |
| | R198 | QRD167J-822 | 8.2K 1/6W CARBON RES. | |
| | R199 | QRD161J-472 | 4.7K 1/6W CARBON RES. | |
| | | OTHERS | | |
| | | EMW10604-003 | PRINTED BOARD | |
| | L106 | EQL3001-102K | INDUCTOR | |
| | L120 | EQL4007-1R0 | INDUCTOR | |
| | T101 | EQR1111-014 | RF COIL | |
| | T103 | EQR1207-017 | RF COIL | |
| | T105 | EQT2140-017 | I.F.TRANSFORMER | |
| | T107 | ECB1560-010 | CERAMIC FILTER | |
| | AT101 | FMMB10YV-401K | ANTENNA TERMINAL | |
| | CF101 | ECB2123-006R | CERAMIC FILTER | |
| | CF102 | ECB2123-006R | CERAMIC FILTER | |
| | CN011 | EMV5163-012R | CONNECT TERMINAL | |
| | FE101 | EAF2203-004 | FRONT END | |
| | LP101 | EQF0101-002 | LOWPASS FILTER | |
| | XT102 | ECX0007-200KWJ1 | CRYSTAL | |
| | XT103 | ECX0000-456KR | CERAMIC RESONATOR | |

## Accessories List

| ⚠ | Item | Parts Number | Parts Name | Q'ty | Description | Area |
|---|---|---|---|---|---|---|
| | 1 | E30580-2457A | INSTRUCTION BOOK | 1 | | J |
| | 1 | E30580-2458A | INSTRUCTION BOOK | 1 | | C |
| | 2 | RM-SR618U | WIRE-LESS REMOTE CONTROL | 1 | | |
| | 3 | R6PRPA-2STSA | DRY CELL | 1 | | |
| | 4 | EWP201-011 | ANTENNA WIRE | 1 | | |
| | 5 | EQB4001-015 | LOOP ANTENNA | 1 | | |
| | 6 | E309758-001 | POLY BAG | 1 | | |
| | - | BT-20044G | SAFETY SHEET | 1 | | J |
| | - | BT-20071B | SERVICE NETWORK | 1 | | C |
| | - | BT-51006-1 | REGISTER CARD | 1 | | J |
| | - | BT-52002-1 | WARRANTY CARD | 1 | | C |

# Packing Materials and Part Numbers



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